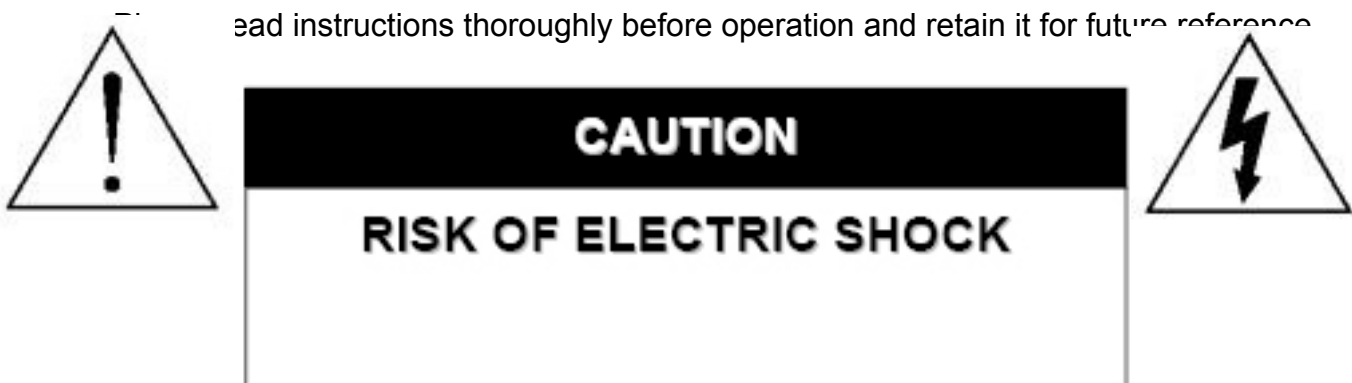




DVQ-2, DMR 4/8/16 RT USER MANUAL



SUPER/CIRCUITS
11000 NORTH MOPAC EXPRESSWAY
SUITE 300
Austin, TX 78759
Phone 800-335-9777 • Fax 866-2567-9777



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION:

To reduce the risk of electric shock, do not expose this apparatus to rain or moisture. Only operate this apparatus from the type of power source indicated on the label. The company shall not be liable for any damages arising out of any improper use, even if we have been advised of the possibility of such damages.

This apparatus is manufactured to comply with the radio interference requirements.

Disclaimer We reserve the right to revise or remove any content in this manual at any time. We do not warrant or assume any legal liability or responsibility for the accuracy, completeness. The content of this manual is subject to change without notice.

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1. OVERVIEW

1.1 General Information

- | | |
|--|--------------------------------------|
| • Video Compression | Frame: MJPEG ; |
| • Format | CIF: MPEG4 |
| • USB Interface | NO |
| • Backup Device | Network remote backup |
| • IR Transmitter | NO |
| • Audio I/O | 1 audio input, 1 audio output (Mono) |
| • R.E.T.R. (Remote EventTrigger Recording) | NO |
| • Dimension | 375mm (W) × 61mm (H) × 281mm (D) |
| • Support multi-language OSD | |
| • System auto recovery. | |
| • Supports PTZ cameras using RS-485. | |
| • Support daylight savings. | |
| • Supports manual / timer / motion / alarm / network remote recording. | |
| • Ensure the authentication of recorded images with Watermark. | |
| • Supports TCP/IP, PPPoE, DHCP and DDNS network connection | |

1.2 Features

MPEG4 DVR Technology

- Compression format providing crystal clear images with real time performance

Multiplex Operation

- Allow live display, record, playback, backup, and network operations at the same time

Free Upgrade to Advanced Functions

- Allow you to upgrade DVR functions without any charges

Long-Recording Hours

- 500GB can record more than 5 days. (4CH, Frame Best Quality, 30FPS)

Backup Function

- Supports network remote recording & backup

Remote Surveillance

- Supports remote surveillance of up to 5 users simultaneously with licensed software AP and IE browser

Intelligent Motion Trigger Recording

- With advanced motion detection like scheduled motion detection recording, 4 different adjustable motion detection sensitivity options and quick search, you can customize your security system to meet your needs.
- Send e-mails or address FTP sites with image alerts when DVR Alarms trigger recordings.
- Support pre-alarm recording (8MB)

Covert Recording

- Mask live images with a blank screen displaying on your monitor, and still record.

A/V Support

- Supports 1 audio-in, 1 audio-out.

1.3 Package Contents

- DVQ unit × 1
- Power Supply × 1
- Power Cable × 1
- Manual × 1
- Software CD-R × 1

DVQ-2



DMR 4, 8, 16 RT



OR



Power cord



Power supply



Manual

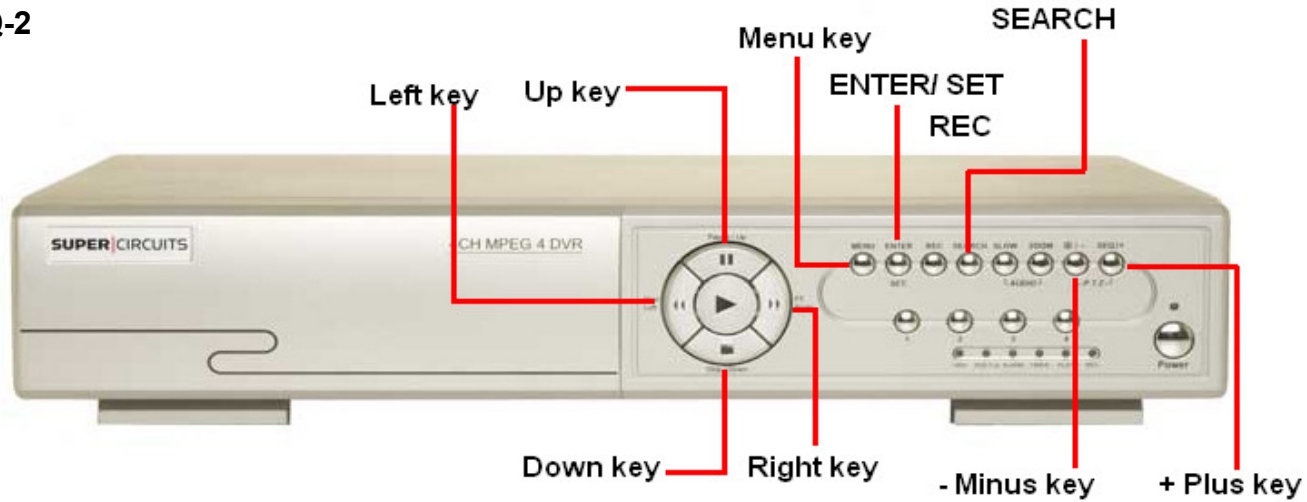


Software

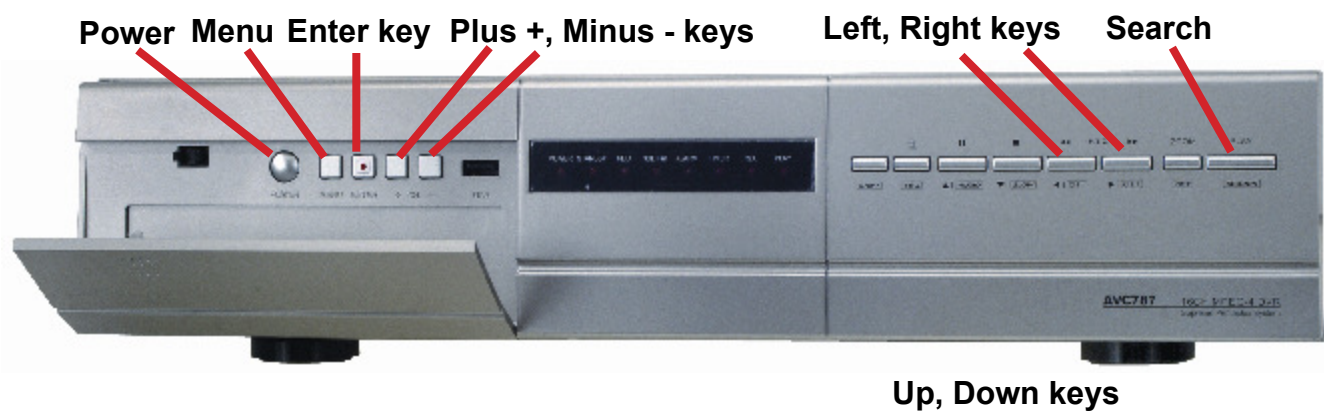
2. FRONT AND REAR PANELS

2.1 Front Panels

DVQ-2



DMR 4, 8, 16 RT



1) LED Indicators

The following LEDs will be on when:

- HDD (Hard Drive): HDD is reading or recording
- HDD Full: HDD is full.
- ALARM: Alarm is triggered
- TIMER: When timer recording is turned on
- PLAY: Under playing status
- REC: Under recording status

2) MENU

Press "MENU" button to enter the main menu.

3) ENTER / SET

- Press "ENTER" button to confirm the setting.
 - Press "SET" to change the position of the channel display.
 - Press up/down/left/right direction buttons to select the channel that you want to change.
 - Press "+" or "-" to select the channel you would like to display.
- Channel Display Position
Under the live mode, you can switch the positions of two channels by:
 - Step1: Press "Set" to highlight one channel.
 - Step2: Press "UP", "DOWN", "LEFT", "RIGHT" button to change the channel position.
 - Step3: Press "+" or "-" to select the channel.
 - Step4: Press "ENTER" button to confirm the setting.

Under the playback mode, you can select a channel to display in live video:

- Step1: Press "Set" to highlight one channel.
- Step2: Press "UP", "DOWN", "LEFT", "RIGHT" button to select the channel you want to view.
- Step3: Press "+" or "-" to select the channel.
- Step4: Press "ENTER" button to confirm the setting.

4) SEARCH

Press "SEARCH" button to enter the search menu.

5) SLOW

Under the playback mode, press "SLOW" button to decrease (1/2X) speed playback.

6) ZOOM

Press "ZOOM" button to enlarge the picture area.

7)  / -

Press “” button to display the 4 channels.
Press “-” button to change the setting in the menu.

8) SEQ / +

Press “SEQ” button to activate the call monitor, and press again to quit.
Press “+” button to change the setting in the menu.

9)  or **POWER**

Press POWER button for 1 to 3 seconds to turn the DVR on or off.
Note: Stop recording before turning off the DVR.

10) “CH1” “CH2” “CH3” “CH4”

Press one of the buttons to select the channel to display.

11) **REC**

Press “REC” button to turn on manual recording.

12)  or **PLAY**

Press Play to play recorded video. See page 10 for more details on PLAY BACK.

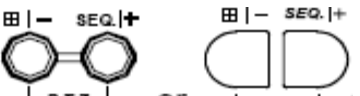
13) **UP / PAUSE, DOWN / STOP, LEFT / REWIND, RIGHT / FORWARD,**

Press one of the direction buttons to move the cursor up/down/left/right.

Under the playback mode: Press “” or “” button to pause / stop playback. Press “” or “” button to fast rewind / forward.

14)  (Audio)

Press SLOW and ZOOM buttons at the same time to select live or playback sound for audio channels.

15)  (PTZ)

Press  /- minus and SEQ /+ plus buttons at the same time to enter / exit the PTZ control.

In the PTZ control mode → Zoom in: Press “+” button ; Zoom out: Press “-” button

Adjust PTZ angle: Press direction buttons to turn up/down/left/right

16) **Switch NTSC / PAL System**

Press “” or “POWER” button on the DVR front panel to shutdown the DVR.

After shutting down the DVR, press and hold  (switch to NTSC) or  (switch to PAL) first, then press the power button again to reboot the DVR (press until the monitor shows video images).

Note: The DVR will automatically detect PAL/NTSC system or manually switch between PAL and NTSC systems.

17) **Key Lock**

Press “MENU” + “ENTER” on the DVR front panel at the same time to lock keys and to log in.

2.1.2 Playback

Press “ ” or “PLAY” button on the front panel, and the device will display the last recorded video.

Note: For playback to work properly the DVR needs to record a minimum of 8192 video frames.

Playback related operations are described below:

- Fast Forward  / Fast Rewind 

In playback you can increase fast forward and rewind speed by:

Pressing “  ” once to get 4X speed forward and press twice to get 8X speed, etc. Maximum speed is 32X.

Press “  ” once to get 4X speed rewind and press twice to get 8X speed, etc. Maximum speed is 32X.

- Pause () / Image Jog

Press “  ” button to pause the video playback.

In the Pause mode:

Press “  ” Right button once to get one frame forward.

Press “  ” Left button once to get one frame rewind.

- Stop ()

Pressing the “  ” stop button will return to live mode.

- Channel Display Mode

Display mode:

Press “  ” button to display 4 channels.

Full screen view:

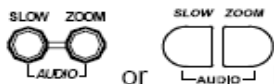
Press the number buttons (1-4) to display the selected channel.

Note: Under the playback mode, you can select a channel to display live video. For details, please refer to “Position of Channel Display” on page 8.

- Slow Playback

Press “SLOW” button to reduce playback to 1/2X.

- Audio



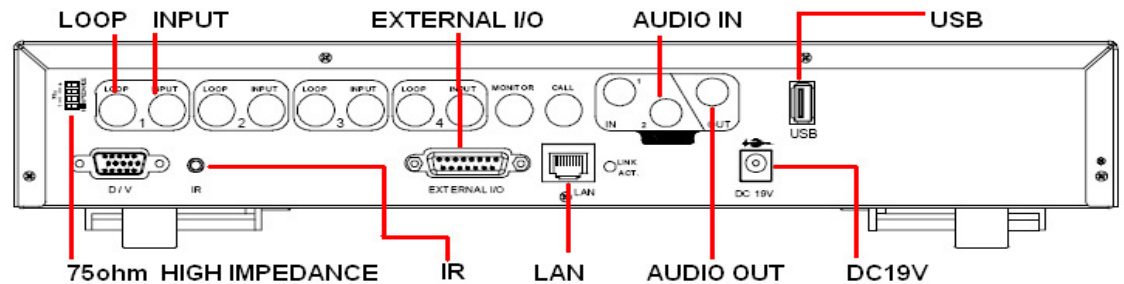
Press **SLOW ZOOM** buttons at the same time to play live (L) or playback (P) sound.

AUDIO 1 (L) – 1st audio channel, live audio;

AUDIO 1 (P) – 1st audio channel, playback audio

Connect audio camera to INPUT 1 on the DVR rear panel.

2.2 DVQ-2 Rear Panel



1) 75Ω / HI-IMPEDANCE

When using LOOP, switch to HI-IMPEDANCE. When not using LOOP switch to 75Ω.

2) LOOP / INPUT (For channel 1~4)

LOOP Video output connector. INPUT: Connect to video sources.

Note: For video and audio applications, use inputs 1 or 2 with a audio camera.

3) MONITOR

Connect to MAIN monitor.

4) CALL

Use CALL monitor to view alarm triggered channel sequence.

5) Audio IN

Connect to audio sources. Use in conjunction with video channel 1.

6) Audio OUT

Connect to a monitor or speaker with 1 mono audio output.

7) USB

file backup.

Note: For the list of compatible USB flash drives, refer to “APPENDIX 5 COMPATIBLE USB FLASH DRIVE” Page 63.

8) D/V Port (Digital Video Port) NOT USED.

9) IR

Connect the IR receiver for remote control.

10) EXTERNAL I/O

Use the 15PIN DSUB to connect external devices (external alarm, PTZ camera, etc).

For detailed I/O port PIN configuration, please refer to “APPENDIX 2 PIN CONFIGURATION”. Page 60.

11) LAN

Connect to LAN port.

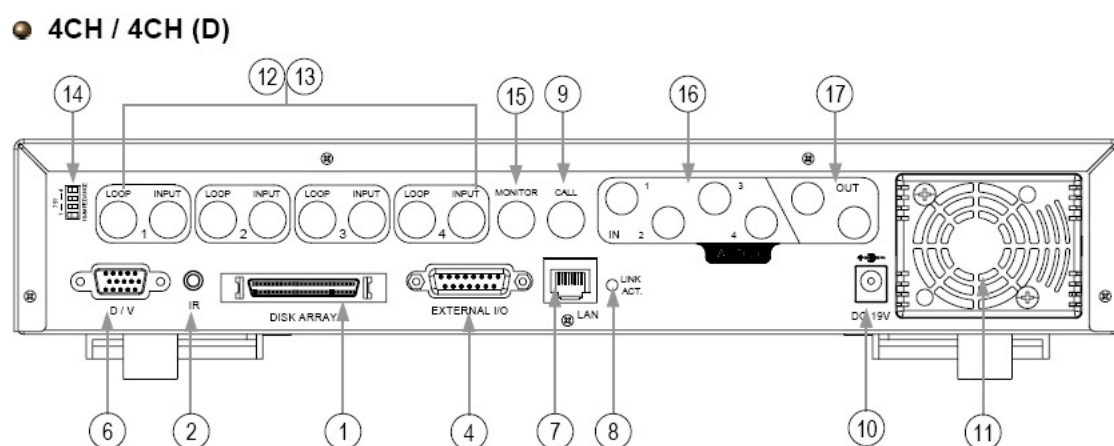
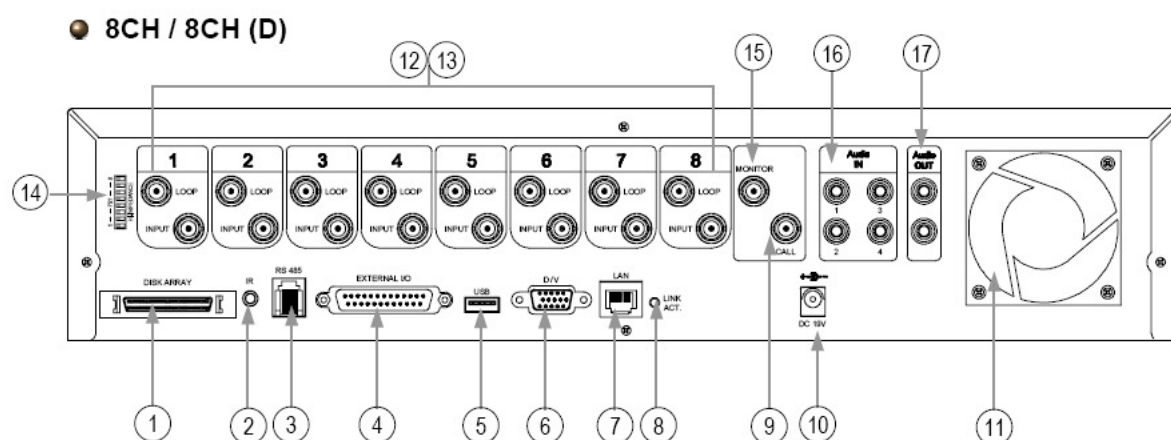
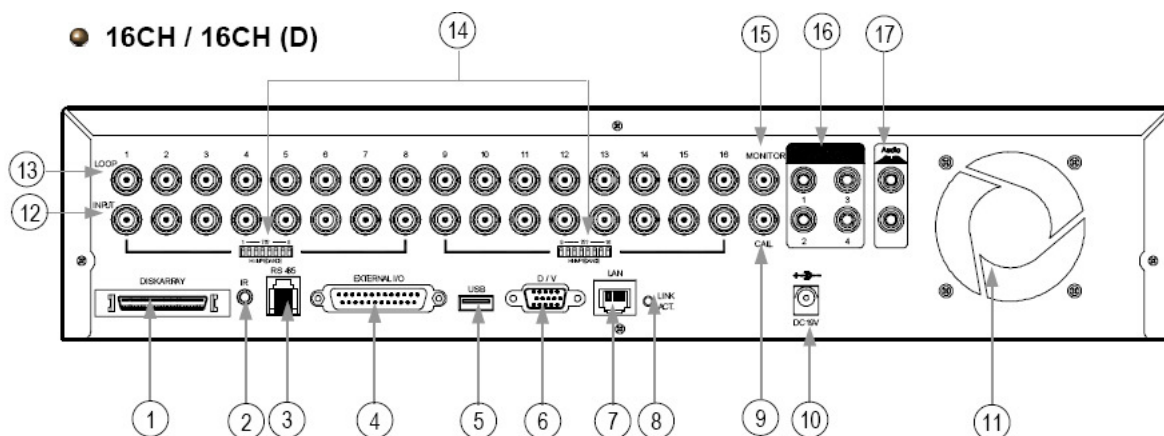
12) LINK ACT.

LINK ACT LED will light when you have an internet connection.

13) DC 19V

Connect to power supply.

2.2 DMR 4, 8, 16 RT Rear Panel



2.2 DMR 4, 8, 16 RT Rear Panel

- 1) DISK ARRAY PORT:
Connect to one disk array for extending HDD capacity.
- 2) IR PORT:
Connect to the IR receiver.
- 3) RS485 PORT:
Connect to external devices (such as PTZ camera) with RS485-A and RS485-B.
- 4) EXTERNAL I/O PORT:
Insert the supplied 15PIN DSUB to this port for connecting external devices (alarm input, external alarm, PTZ camera).
- 5) USB PORT:
Support firmware update and file backup.
- 6) D/V PORT (Digital Video Port):
Connect to a VGA converter card.
- 7) LAN:
Connect to Internet by a LAN cable.
- 8) LINK / ACT LED light:
When the Internet is activated, the LED light will be on.
- 9) CALL MONITOR:
Connect to CALL monitor. Show the channel switch display. When the alarm is triggered, the call monitor will show the image of the triggered channel for a period of time.
- 10) POWER:
Connect to the provided adapter.
- 11) FAN:
For ventilation.
- 12) VIDEO INPUT (CHANNEL 1 – 16 / CHANNEL 1 – 8 / CHANNEL 1 – 4):
Connect to video sources, such as cameras.
- 13) LOOP (CHANNEL 1 – 16 / CHANNEL 1 – 8 / CHANNEL 1 – 4):
Video output.
- 14) 75Ω / HI-IMPEDANCE:
When using Loop function, please switch to HI-IMPEDANCE. When you don't use Loop function, please switch to 75Ω.
- 15) MONITOR:
Connect to the Main monitor.
- 16) AUDIO IN (1-4):
Connect to audio sources, such as cameras equipped with the audio function. When users start the recording function, the audio input will be recorded.
- 17) AUDIO OUT:
Connect to a monitor or speaker with 2 mono audio outputs from the same source.

3.0 Installation Guide

3.1 Camera and Monitor Installation

This manual has been carefully written to help you assemble and configure your digital video recorder system for optimal performance. It's easy to setup your digital video recorder just follow the instructions on the following pages. If you have any comments questions about this manual, please feel free to call us at 800-335-9777.

1. Remove your monitor from the box for testing your cameras and cables. You can use a TV set with a video input if you don't have a monitor. Plug your monitor into a 110-120 AC power source. Do not mistake the antenna input on the TV for a VIDEO INPUT. Monitors and TV's have video inputs clearly marked. The TV RCA input will look some what like the image below (labeled VIDEO INPUT). This type of input connector is called an RCA female input jack.

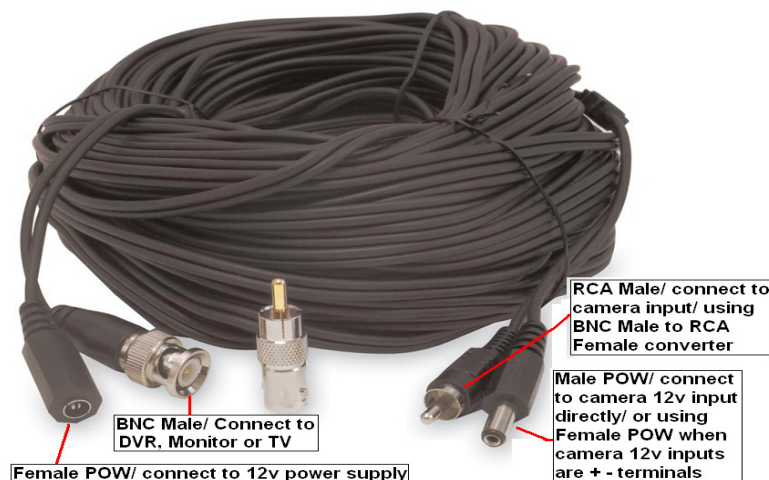


RCA Female Jack

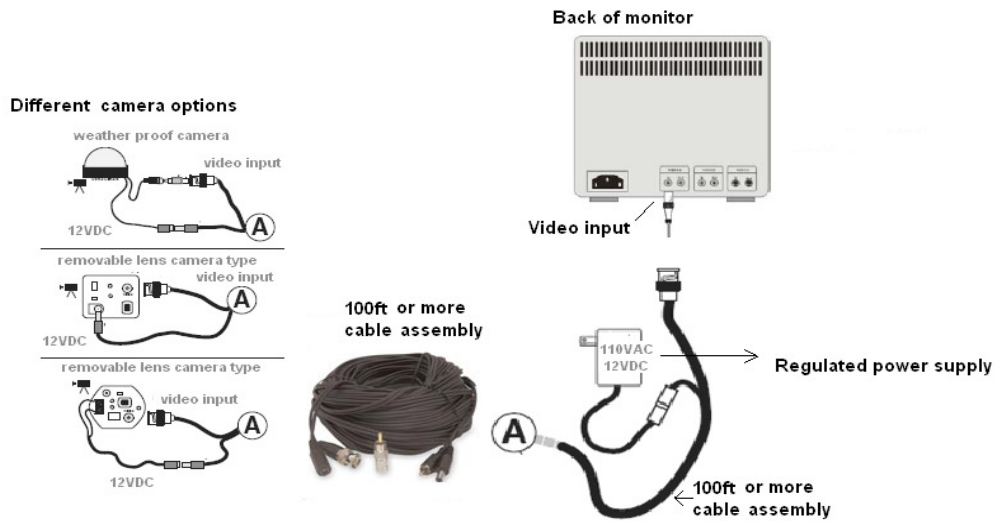
2. Remove your cameras and camera power supplies from the box.



3. Connect each one of your cameras to your power supply and cable assembly. Most cable assemblies are 100 ft long or more.



- Test each component of your video system prior to installation. Connect each camera directly to the video monitor, using a new power adapter and cable for each camera. This will test each component of your video system prior to installation.



If you get a bad picture while testing your camera, it could be a bad monitor, camera or the cable. It's real easy to figure out what's causing the malfunction by just simply troubleshooting.

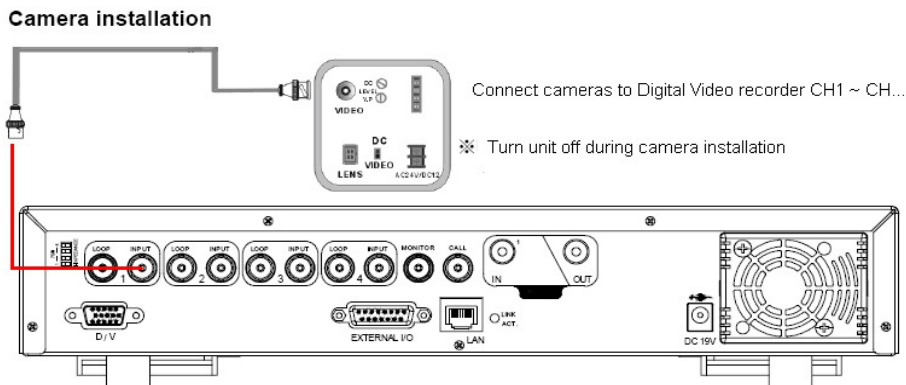
NOTE:

- Make sure you are using the proper power supply for your camera and that the cable connections are connected.
- Some cameras like our PC33 and 153 require a 24V AC power source and will not work properly with a 12V DC power source.
- Do not use AC power supplies with Supercircuits EXT series cables such as EXT25, EXT50 or EXT100. Use the CAB-BNC-25, CAN-BNC-50 or CAB-BNC-100 with AC power supplies."

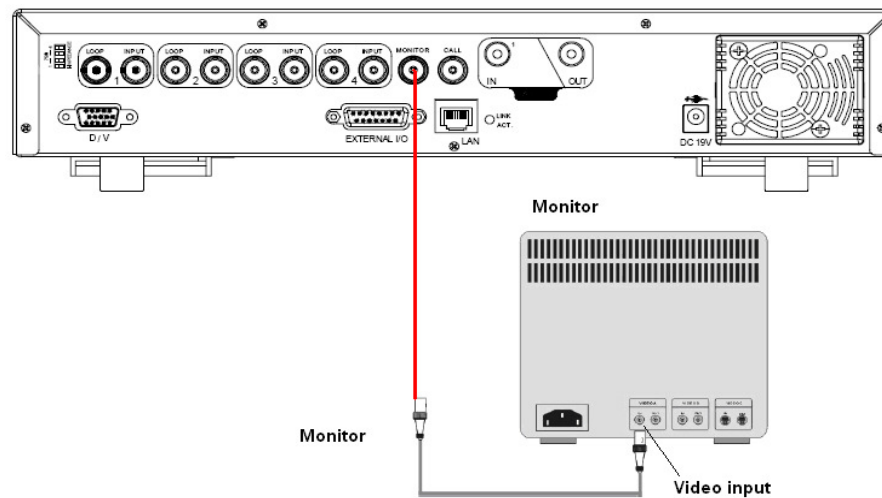
Grab another camera and replace it with a 2nd camera. If you have a good picture with the 2nd camera, the first camera is not working properly. Call SuperCircuits technical support to replace the camera. If the 2nd camera is not working either, this could be a bad cable and we need to replace the cable with another cable. If you continue to get a bad display or picture, we need to look at the monitor as the source of the problem. We can use another monitor or TV with a video input to test our cameras and cables. After testing all components you are ready to do your final installation. After testing move on to the DVR installation.

- Connect your cameras and monitor to the DVR.

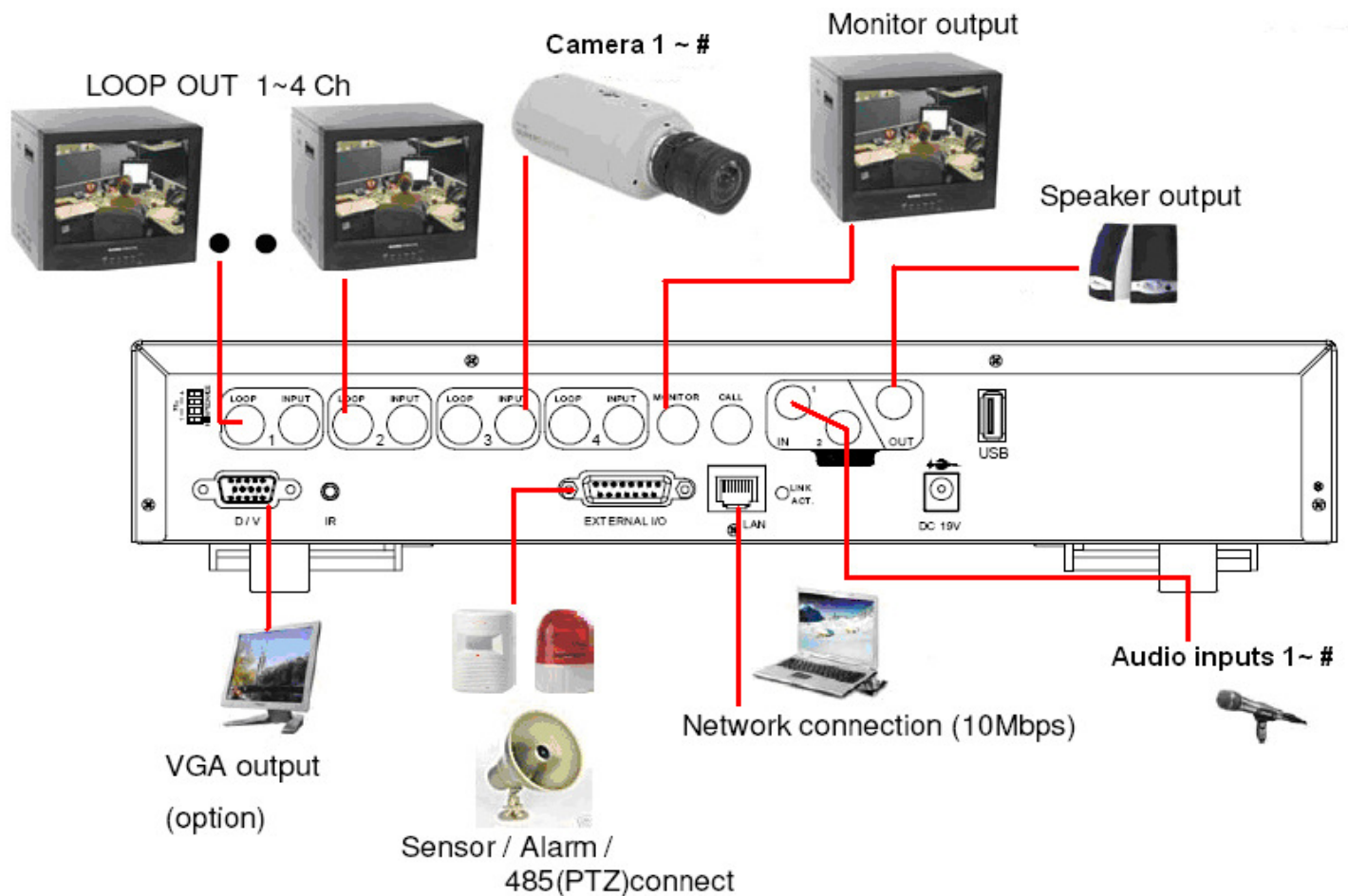
DVR and Camera Installation



DVR and Monitor Installation

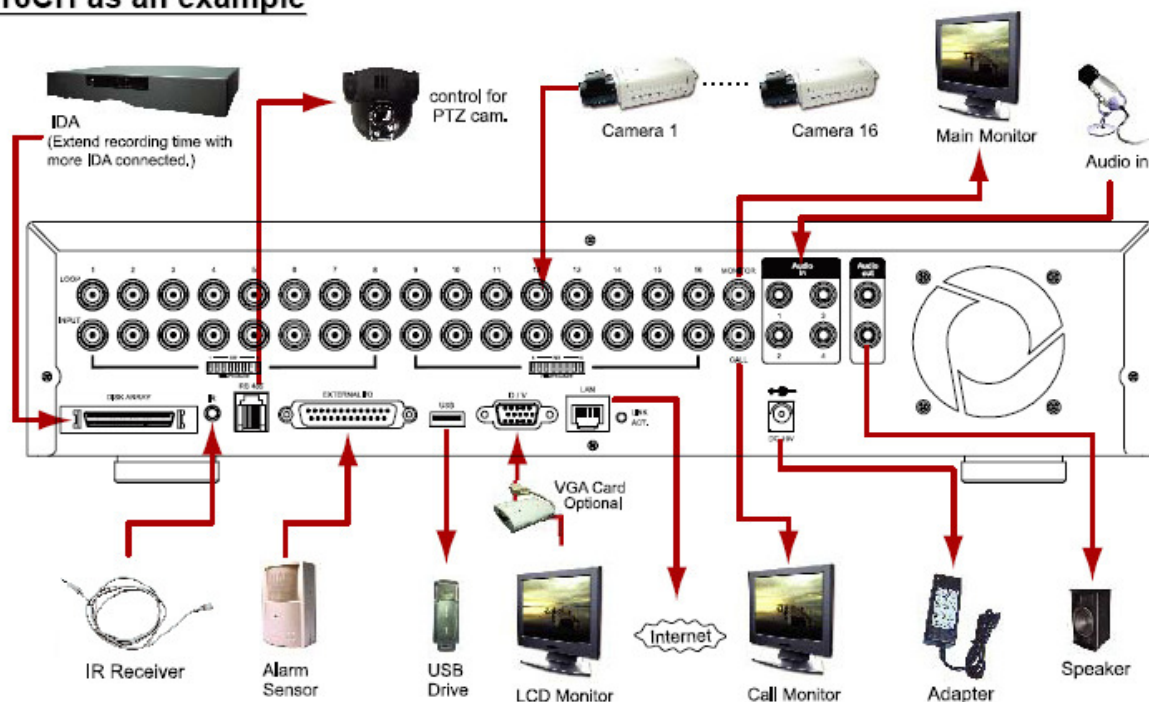


3.2 DVQ-2 SYSTEM CONFIGURATION



3.2 DMR 4, 8, 16 RT SYSTEM CONFIGURATION

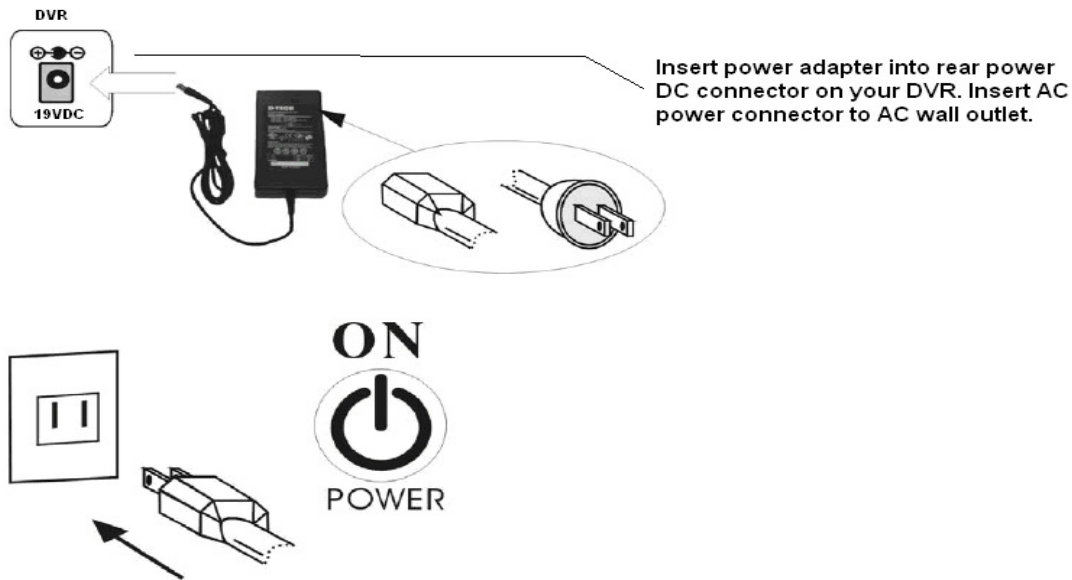
Take 16CH as an example



4.0 GETTING STARTED

4.1 INTRODUCTION

This digital video recorder is designed to function right out of the box. We made setting up your DVR easier by adjusting the time, date and record settings for you. Your DVR is set to record for 14 days with the video quality and frame rate set to the highest settings.



Connect the AC Power Cord with Power Adapter and plug into an electrical AC outlet. Turn your DVR on by hitting the power button on the front panel. It will take approximately 5 to 15 seconds for the system to completely finish initializing.

Caution: Only use 100~240VAC 50~60HZ / 19VDC 2.21A or 3A power supply. Use only SuperCircuits power supplies.

If your digital video recorder is not working properly:

- Not showing any video.
- HDD (Hard drive) error messages.
- HDD not found.
- All video camera images are distorted.
- DVR will not record.
- DVR is not showing proper date & time.

See Reconfigure Your DVR section in this manual page 16.

If your DVR is running fine but you want to custom configure your DVR, Please see DVR MENU configuration in this manual page 21.

4.2 RECONFIGURE YOUR DVR

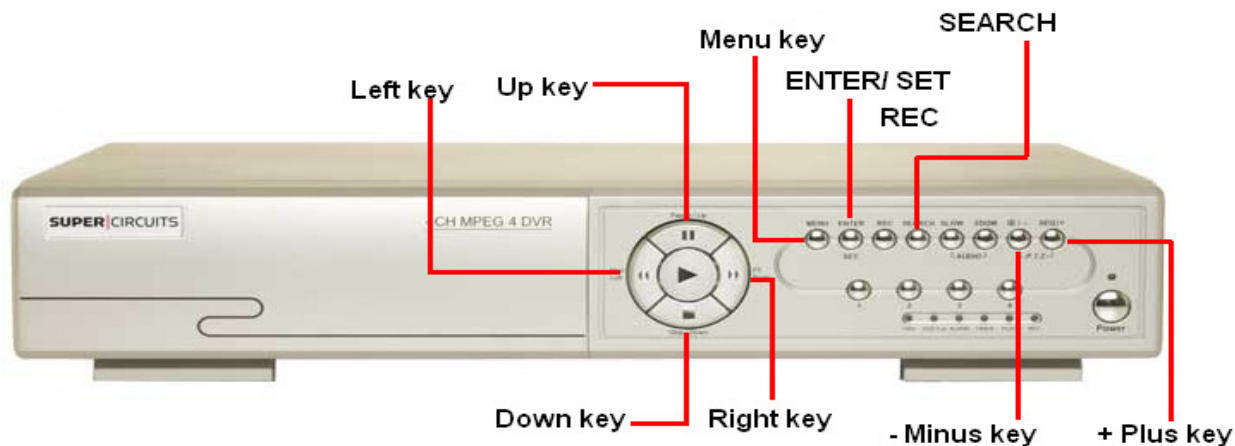
Go into the main MENU and run the FACTORY DEFAULT, CLEAR HARD DRIVE, and set SYSTEM TIME. Set OVERWRITE, MOTION DETECTION and RECORD settings.

1. FACTORY DEFAULT
2. CLEAR HARD DRIVE
3. SYSTEM TIME
4. OVERWRITE
5. MOTION DETECTION
6. RECORD SETTINGS

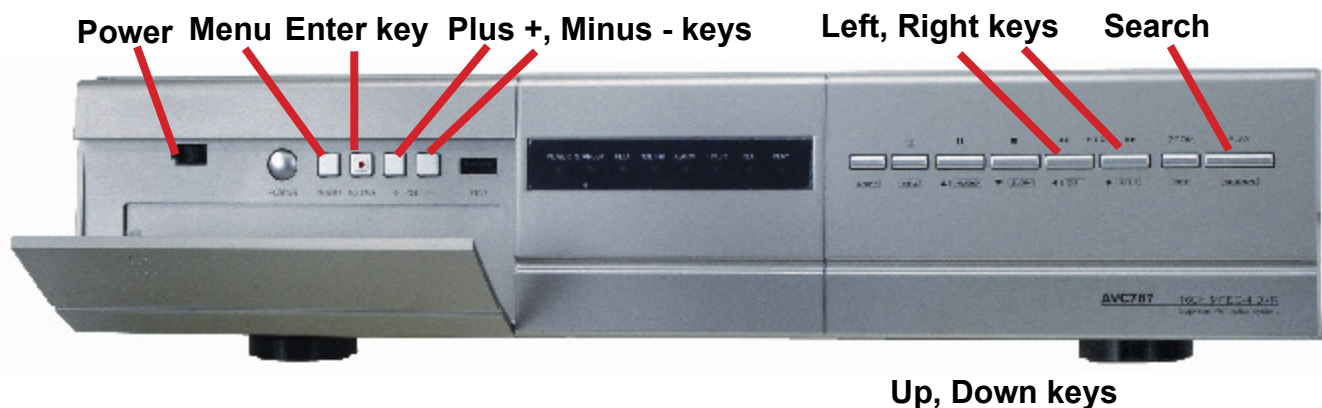
BASIC MENU SETUP

1. Press the MENU key on the front panel to login. The Menu allows you to configure your digital video recorder (DVR) settings.
2. Use CH. SELECTORS 1 ~ 16 to key in the password.

DVQ-2



DMR 4, 8, 16 RT



The password screen will appear:

NOTE: The default Password is 0000. Simply press the Enter button.

To key-in the Password, press the “RIGHT” and “LEFT” buttons to move between numbers, and use the “- MINUS” and “+ PLUS” buttons to change values.

KEY UNLOCK
PASSWORD 0000

Press the >ENTER button once and the MENU screen will appear.

NOTE: If you get an error message “Password Error”, you have entered an incorrect password.

MAIN MENU

There are 4 options available in the Main Menu:

RECORD ----- Record Setup
TIMER ----- Scheduling Record
DATE ----- Date Setup
ADVANCE-----System Configuration

MENU
RECORD TIMER DATE ADVANCE

4.3 RESET DEFAULT

Select ADVANCE> SYSTEM> RESET and press the ENTER button.

NOTE: (> = hit the ENTER KEY)

Reset all system settings to factory default settings.

MENU	ADVANCE	SYSTEM
RECORD TIMER DATE ADVANCE	CAMERA DETECTION ALERT REMOTE SYSTEM NETWORK HDD INFO EVENT LOG	SERIAL TYPE RS-485 BAUD RATE 02400 HOST ID 001 PASSWORD SETUP RESET DEFAULT RESET CLEAR HDD HDD MASTER AUTO KEYLOCK NEVER LANGUAGE ENGLISH VERSION 1088-10-K2-04-AA-11 VIDEO FORMAT NTSC

5. Use LEFT key to select YES and press the ENTER button. The DVR will display a REBOOT dialog box, beep and take a minute or two to Initialize.

RESET DEFAULT
RESET DEFAULT ARE YOU SURE ?
YES NO

Let's CLEAR the HDD.

4.4 CLEAR HDD

Return to the SYSTEM MENU and select CLEAR HDD and push the ENTER button.

SYSTEM
SERIAL TYPE RS-485 BAUD RATE 02400 HOST ID 001 PASSWORD SETUP RESET DEFAULT RESET CLEAR HDD HDD MASTER AUTO KEYLOCK NEVER LANGUAGE ENGLISH VERSION 1088-10-K2-04-AA-11 VIDEO FORMAT NTSC

Push the LEFT key to select YES and push the ENTER key and confirm by pushing the ENTER key again to select OK.

CLEAR HDD
CLEAR HDD ARE YOU SURE ?
YES NO

CLEAR HDD
CLEAR OK ?
OK

Set the DVR time and date.

4.5 DATE/ TIME

8. Select DATE from the main MENU and enter correct date and time.

MENU
RECORD TIMER DATE ADVANCE

DATE
DATE 2006 – Dec - 01 12 : 15 : 30 FORMAT Y - M - D DAYLIGHT SAVING ON

Set OVERWRITE.

4.6 OVERWRITE

9. Select RECORD from the main MENU. Select OVERWRITE and change OVERWRITE NO to YES and push the ENTER key. Select YES to confirm.

MENU
RECORD TIMER DATE ADVANCE

RECORD
MANUAL RECORD ENABLE NO EVENT RECORD ENABLE YES TIMER RECORD ENABLE NO OVERWRITE YES RECORD IMG SIZE FRAME RECORD QUALITY BASIC MANUAL RECORD IPS 030 EVENT RECORD IPS 030 TIMER RECORD IPS 030 TOTAL IPS SHARE 030

OVERWRITE
STOP OVER WRITE ARE YOU SURE ?
YES NO

Setup MOTION DETECTION

4.7 MOTION DETECTION

From main MENU select ADVANCE> DETECTION> DETECTION SETUP and press the ENTER key. Select DETECTION, press ENTER key.

NOTE: (> = hit the ENTER KEY)

MENU	ADVANCE	DETECTION
RECORD TIMER DATE ADVANCE	CAMERA DETECTION ALERT REMOTE SYSTEM NETWORK HDD INFO EVENT LOG	DETECTION SETUP DETECTION TIMER

Set DET ON for all active cameras.

DETECTION									
TITLE	DET	AREA	LS	SS	TS	RE	ALARM		
01	ON	SETUP	07	03	02	10	LOW		
02	ON	SETUP	07	03	02	10	OFF		
03	OFF	SETUP	07	03	02	10	LOW		
04	OFF	SETUP	07	03	02	10	HIGH		
PREV NEXT									

NOTE: If you don't want the ALARM BUZZER to sound every time you have motion, set INT BUZZER to OFF.

ADVANCE	ALERT	
CAMERA DETECTION ALERT REMOTE SYSTEM NETWORK HDD INFO EVENT LOG	EXT. ALERT	ON
	INT. BUZZER	OFF
	KEY BUZZER	ON
	VLOSS BUZZER	ON
	MOTION BUZZER	ON
	ALARM BUZZER	ON
	HDD BUZZER	ON
	HDD NEARLY FULL (GB)	05
	ALARM DURATION (SEC)	05
	PRE-ALARM	OFF

Set RECORD QUALITY and IPS.

4.8 RECORD QUALITY AND IPS

Select RECORD from the main menu and press the ENTER key. Set EVENT RECORD ENABLE to YES.

MENU	RECORD
RECORD	MANUAL RECORD ENABLE NO
TIMER	EVENT RECORD ENABLE YES
DATE	TIMER RECORD ENABLE NO
ADVANCE	OVERWRITE YES
	RECORD IMG SIZE FRAME
	RECORD QUALITY BASIC
	MANUAL RECORD IPS 030
	EVENT RECORD IPS 030
	TIMER RECORD IPS 030
	TOTAL IPS SHARE FIX

Use Table 1 to set your RECORD QUALITY and IPS for DVQ-2.

DVQ-2 TABLE 1

RECORD MODE	QUALITY	IPS	RECORD TIME FOR 500GB (HOUR)	RECORD DAY
FRAME	BEST	30	127.78	5.3
		15	236.11	9.8
		7	511.11	21.3
		3	980.65	40.9
	HIGH	30	159.72	6.7
		15	305.55	12.7
		7	633.89	26.4
		3	1209.72	50.4
	NORMAL	30	179.17	7.5
		15	352.78	14.7
		7	626.11	28.6
		3	1263.88	52.7
	BASIC	30	222.22	9.3
		15	405.56	16.9
		7	927.78	38.7
		3	1637.5	68.2
CIF	BEST	120	763.89	31.8
		60	1416.67	59
		30	2156.94	89.9
		15	4134.72	172.3
	HIGH	120	965.28	40.2
		60	1655.55	69
		30	3398.61	141.6
		15	4833.31	201.4
	NORMAL	120	1120.83	46.7
		60	2166.38	90.3
		30	4105.56	171.1
		15	5154.17	214.8
	BASIC	120	1563.89	65.2
		60	2494.44	103.9
		30	4472.22	186.3
		15	6681.94	278.4

Use Table 2 to set your RECORD QUALITY and IPS for DMR 4, 8, 16 RT.

DMR-16RT Table 2

- 1) Recording time varies depending on:
 - * Different camera quality
 - * Different picture composition (object movement)
- 2) For **DMR-8RT** Record day: multiply "Record day" by 2.
 For **DMR-4RT** Record day: multiply "Record day" by 4.

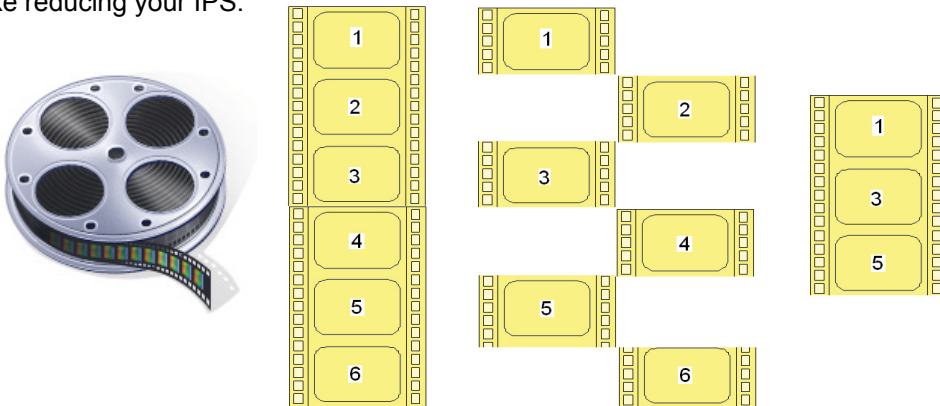
Record mode	Quality	IPS	500GB record time(hour)	Record day
Frame	Best	120	109	4.6
		60	192	8.0
		30	349	14.6
		15	565	23.5
	High	120	138	5.8
		60	243	10.1
		30	442	18.4
		15	714	29.8
	Normal	120	182	7.6
		60	319	13.3
		30	581	24.2
		15	939	39.1
	Basic	120	293	12.2
		60	516	21.5
		30	939	39.1
		15	1517	63.2
CIF	Best	480	130	5.4
		240	229	9.5
		120	417	17.4
		60	673	28.0
	High	480	184	7.6
		240	323	13.4
		120	587	24.5
		60	949	39.5
	Normal	480	242	10.1
		240	424	17.7
		120	773	32.2
		60	1249	52.0
	Basic	480	335	13.9
		240	588	24.5
		120	1071	44.6
		60	1730	72.1

Use example below to understand how to setup your IPS and QUALITY settings.

EXAMPLE: Setup a DVR to record for 14 days using the FRAME RECORD MODE. Go to table 1 and you will see 10 options to choose from. If your preference is video quality, your best option is 21.3 days with a QUALITY of BEST and an IPS of 7. If you prefer to have a better flowing video or get at as close to real time as possible, then your choice would be to pick 14.7 days with a QUALITY of NORMAL and an IPS of 7. IPS is images per second. The larger the IPS number the more frames you will use to capture your video. When thinking about images per second, try to visualize using a digital camera and taking multi-pictures. The more pictures you take the more information is acquired and will be visible. The higher the IPS, the more frames a second you will acquire and your video will flow better. Real time video flow is not necessary for most applications.

RECORD MODE	QUALITY	IPS	RECORD TIME FOR 500GB (HOUR)	RECORD DAY
FRAME	BEST	30	127.78	5.3
		15	236.11	9.8
		7	511.11	21.3
		3	980.65	40.9
	HIGH	30	159.72	6.7
		15	305.55	12.7
		7	633.89	26.4
		3	1209.72	50.4
	NORMAL	30	179.17	7.5
		15	352.78	14.7
		7	626.11	28.6
		3	1263.88	52.7
	BASIC	30	222.22	9.3
		15	405.56	16.9
		7	927.78	38.7
		3	1637.5	68.2

Reducing your IPS will allow the hard drive to hold more data and allow your DVR to record for a longer period of time. So you pay a price for real time video, because your using more frames a second or IPS Images per second to acquire it. Reducing your IPS will let you record for longer durations like weeks, or even months. Think of your recorded data as a movie film strip, where we remove frames and piece them together to get your play back. Remove the picture frames is a lot like reducing your IPS.



NOTE: All data in table 1 is estimated and you must test your QUALITY and IPS settings for your application to see your results.

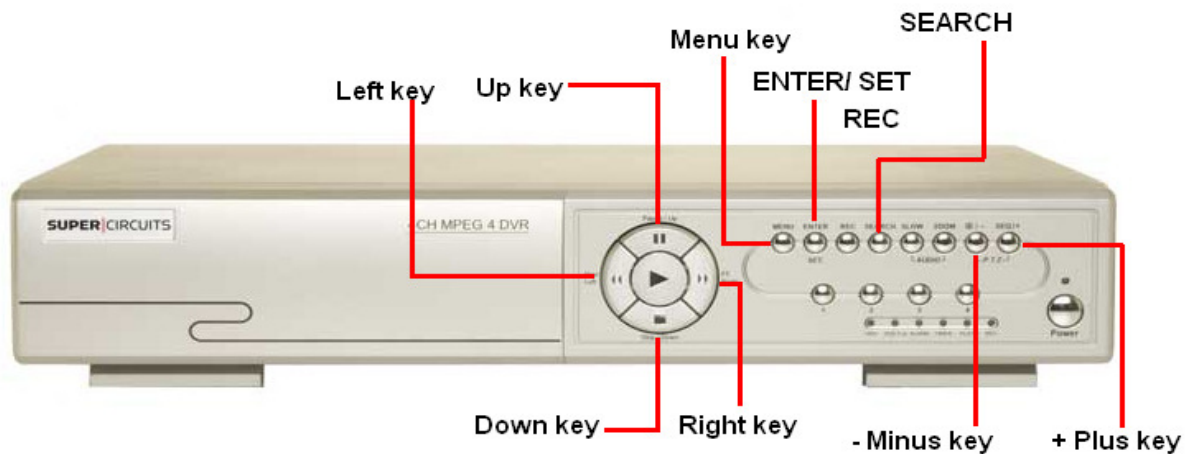
Enter your QUALITY and IPS values in the RECORD menu. Exit all menus by pressing the MENU button.

THIS CONCLUDES OUR “RE-CONFIGURE YOUR DVR” AND YOU SHOULD BE OPERATIONAL. PLEASE CONTINUE READING THE USER MANUAL FOR FURTHER CONFIGURATION SETTINGS. IF YOU HAVE ANY QUESTIONS PLEASE CONTACT OUR SUPERCIRCUITS TECHNICAL SUPPORT GROUP AT 800-335-9777. 27

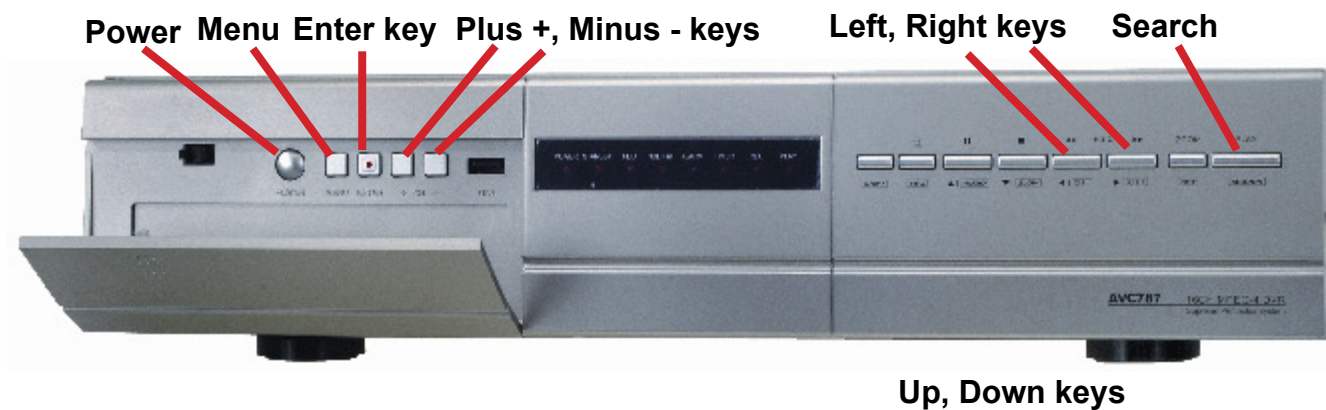
5.0 MENU CONFIGURATION

5.1 MENU INTRODUCTION

DVQ-2



DMR 4, 8, 16 RT



Press the MENU button and enter your password.

NOTE: If you get an error message "Password Error", you have entered an incorrect password.

KEY UNLOCK

PASSWORD 0000

The default admin password is **0000**. Enter the default password, and press “ENTER”.

MAIN MENU

There are 4 options available in the Main Menu:

RECORD ----- Record Setup
TIMER ----- Scheduling Record
DATE ----- Date Setup
ADVANCE-----System Configuration

MENU

RECORD
TIMER
DATE
ADVANCE

Select “RECORD”, and press ” ENTER”.

5.2 RECORD

Use the RECORD settings to setup the record quality, type and configuration. Press the “MENU” button on the front panel to enter the main menu list and select RECORD and press the Enter button. (Remember to press the MENU button to exit after making your selections)

MENU

RECORD
TIMER
DATE
ADVANCE

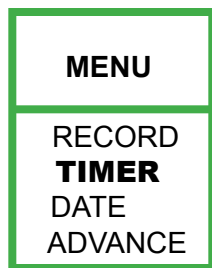
RECORD

MANUAL RECORD ENABLE	NO
EVENT RECORD ENABLE	YES
TIMER RECORD ENABLE	NO
OVERWRITE	YES
RECORD IMG SIZE	FRAME
RECORD QUALITY	BASIC
MANUAL RECORD IPS	030
EVENT RECORD IPS	030
TIMER RECORD IPS	030
TOTAL IPS SHARE	030

- 1) **MANUAL RECORD ENABLE**
Start / stop the manual recording.
 - 2) **EVENT RECORD ENABLE**
Start / stop the event recording. When enabled the recording is triggered by motion or external alarm.
 - 3) **TIMER RECORD ENABLE**
Start / stop the schedule recording.
 - 4) **OVERWRITE**
Select to overwrite previous recorded data for automatic continuous recording. When the HDD is full under O/W recording, OVERWRITE will clear 8GB of data to make room for new video data.
 - 5) **RECORD IMG SIZE**
Select image size: FRAME or CIF. FRAME settings is highly recommended.
Note: When changing the record image size, stop recording.
 - 6) **RECORD QUALITY**
Select type of video quality: BEST, HIGH, NORMAL & BASIC.
 - 7) **MANUAL RECORD IPS**
Select the number images per second to use for MANUAL RECORD.
 - 8) **EVENT RECORD IPS**
Select the number images per second to use for EVENT RECORD (Recording is triggered by an alarm or motion event).
 - 9) **TIMER RECORD IPS**
Select the number images per second for TIMER RECORD (Recording is activated by a time schedule).
- NOTE:** IPS options:
- | | |
|---------------------|----------------------|
| U.S. | International |
| NTSC | PAL |
| FRAME 30, 15, 7, 3 | FRAME 25, 12, 6, 3 |
| CIF 120, 60, 30, 15 | CIF 100, 50, 25, 12 |
- 10) **TOTAL IPS SHARE/ NOT AVAILABLE FOR THIS UNIT.**
Controls how IPS is shared. IPS share setting is fixed and will not change for this unit: Share options: FIX or GROUP.
- FIX: $\text{IPS per channel} = \text{RECORD IPS} \div \text{number of channels}$
 GROUP: (Ideal for Frame mode): $\text{IPS per channel} = \text{RECORD IPS} \div 2 \div \text{number of channels in a group under recording.}$
 NOTE: IPS share is "FIX".

5.3 Timer

Press "MENU" button on the front panel to enter the main menu. Select "TIMER", and press "ENTER". Use TIMER to schedule your recordings by entering the days of the week and time.



RECORD		
DATE	START	END
OFF	00 : 00	- 00 : 00
DAILY	08 : 00	- 18 : 00
SUN	06 : 00	- 23 : 00
MON-FRI	18 : 00	- 23 : 00
OFF	00 : 00	- 00 : 00
OFF	00 : 00	- 00 : 00
OFF	00 : 00	- 00 : 00

1) DATE

Schedule up to 7 recording days: SUN / MON / TUE / WED / THU / FRI / SAT / MON-FRI / SAT-SUN / DAILY / OFF.
Please see example below to schedule midnight applications.

Example 1: To schedule from Sunday 23:30 to Monday 23:30, set Sunday from 23:30 to 23:30.

Example 2: To schedule from Sunday 08:00 to Monday 15:00, set Sunday from 08:00 to 24:00, and Monday 24:00 to 15:00.

NOTE: Before setting the timer recording schedule, turn on "TIMER RECORD ENABLE" in "RECORD" menu.

5.4 Date

Set up the system date and time.

NOTE: DO NOT change the date or time when recording.

Press "MENU" button on the front panel to enter the main menu. Select "DATE", and press "ENTER".

MENU	DATE
RECORD TIMER DATE ADVANCE	DATE 2006 - Dec - 01 12 : 15 : 30 FORMAT Y - M - D DAYLIGHT SAVING ON

1) DATE:

Set the current date and time. The default order is "YEAR - MONTH - DATE HOUR : MIN : SEC".

2) FORMAT

Select one date format from the following 3 options: Y-M-D, M-D-Y, D-M-Y.

3) DAYLIGHT SAVING

Select daylight-savings time (ON / OFF). If ON, press "ENTER" to go into submenu for settings. Set the start time and end time, and adjust the daylight savings time in ADJUST. The below example shows during the daylight-savings time period (starting from the 4th Sunday of March and ending on the 4th Sunday of October), the system time will add one hour.

DAYLIGHT SAVING
START 4TH - SUN - MAR 24 : 00 : 00 END 4TH - SUN - OCT 24 : 00 : 00 ADJUST 01 : 00

5.5 Advance

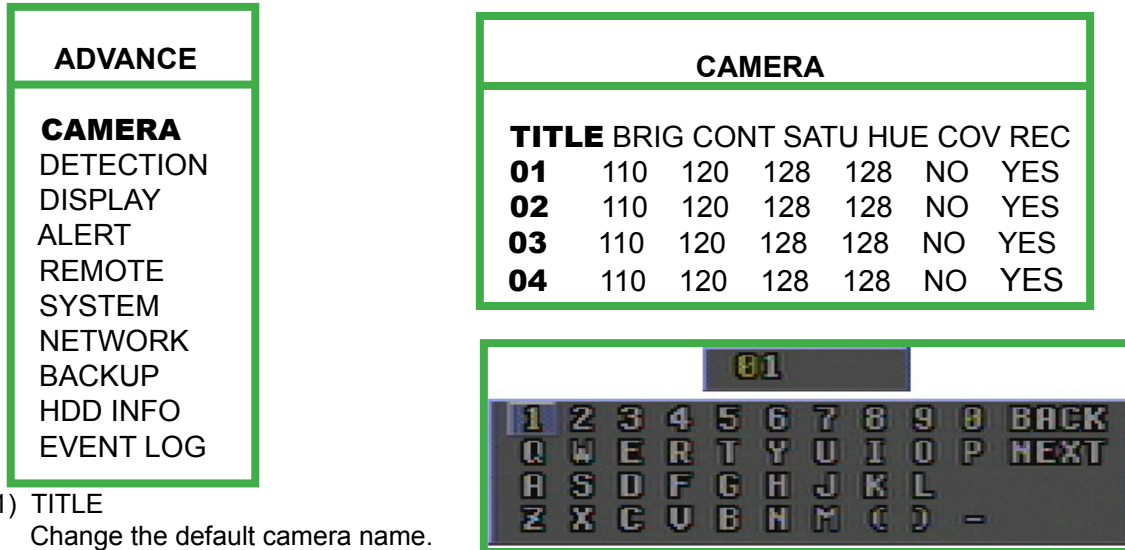
Press "MENU" button on the front panel to enter the main menu. Select "ADVANCE", and press "ENTER".

MENU
RECORD TIMER DATE ADVANCE

ADVANCE
CAMERA DETECTION DISPLAY ALERT REMOTE SYSTEM NETWORK BACK UP HDD INFO EVENT LOG

5.6 Camera

Advanced camera settings, change camera title, or adjust the brightness. Select “CAMERA”, and press “ENTER”.

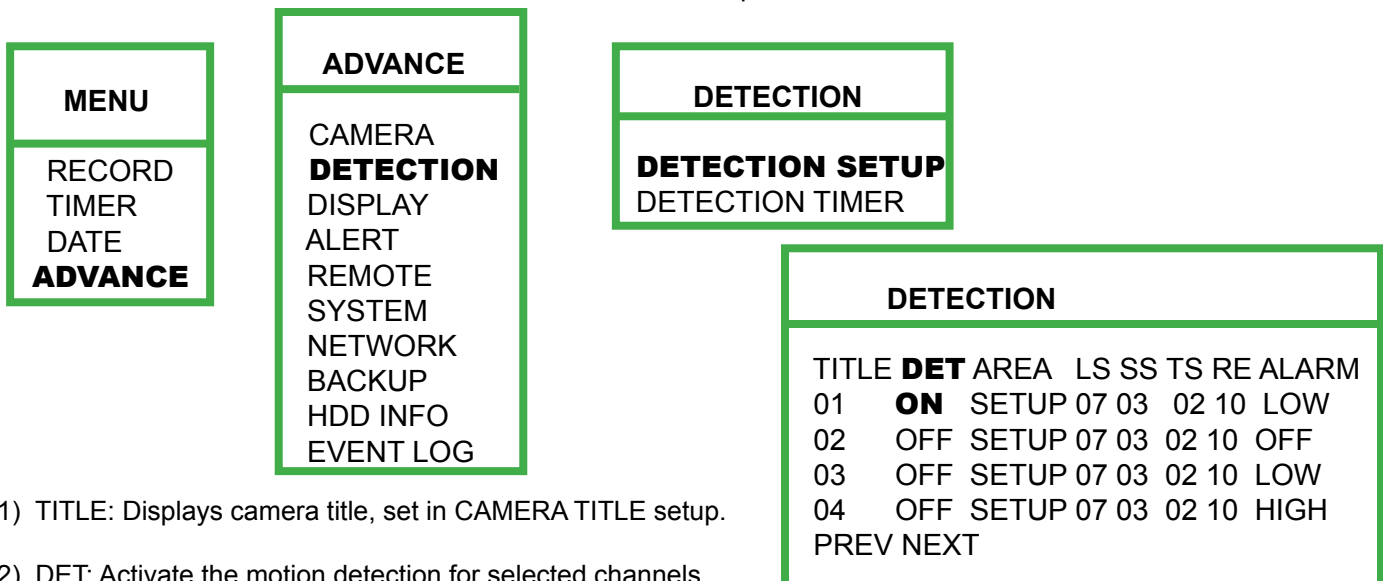


- 1) TITLE
Change the default camera name. Select camera title and change by pressing “ENTER” to access the character selection screen. Assign a new name to the camera by selecting any of the characters (letters or symbols).
- 2) BRIG/CONT/SATU/HUE
Adjust the brightness/ contrast/ saturation/ hue for each channel. The default values for: BRIG 110, CONT/ SATU/ HUE/ 128. Adjustable from 0 to 255.
- 3) COV
Hide selected channels when recording (YES/NO). When activated, the word “COV” will display on the screen while recording.
- 4) REC
Enable recording for the selected channels (YES/NO). When activated, the symbol “●” will display on the screen.

5.7 MOTION DETECTION

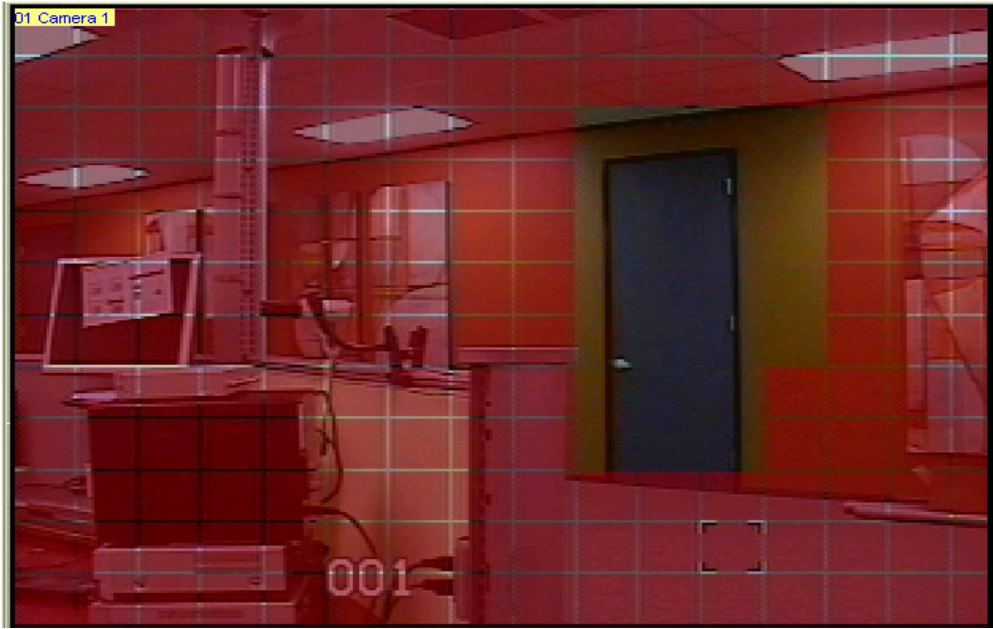
(1.) DETECTION SETUP (Motion setup)

Select “ADVANCE> DETECTION> DETECTION SETUP”, and press “ENTER”.



- 1) TITLE: Displays camera title, set in CAMERA TITLE setup.
- 2) DET: Activate the motion detection for selected channels (ON/OFF). Use ON to activate.

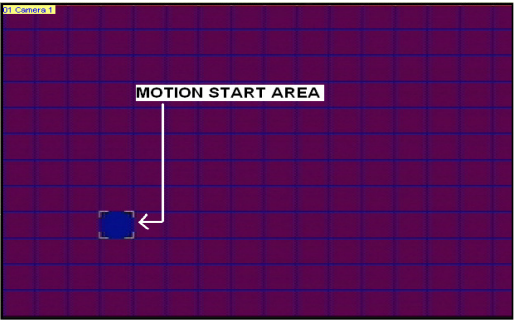
3. Advance motion detection settings. Use **AREA** to setup motion detection for a selected viewing area. Cameras will pickup areas of movement like moving tree branches in the back ground and trigger false motion alarm recordings. The AREA SETUP feature can be used to block out the tree branches, thereby reducing false motion alarms. Anything around the tree that is moving will trigger the motion detection alarm and start recording. The example below shows the door area is the only area that will trigger the motion alarm or set off external alarms and start recording.



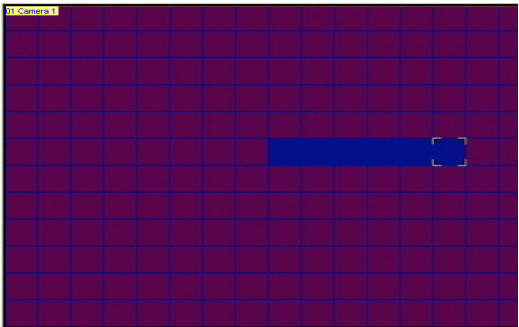
Make sure you are In “ADVANCE> DETECTION> DETECTION SETUP”. Setup motion detection AREA and push the ENTER key .

DETECTION							
TITLE	DET	AREA	LS	SS	TS	RE	ALARM
01	ON	SETUP	07	03	02	10	LOW
02	OFF	SETUP	07	03	02	10	OFF
03	OFF	SETUP	07	03	02	10	LOW
04	OFF	SETUP	07	03	02	10	HIGH
PREV NEXT							

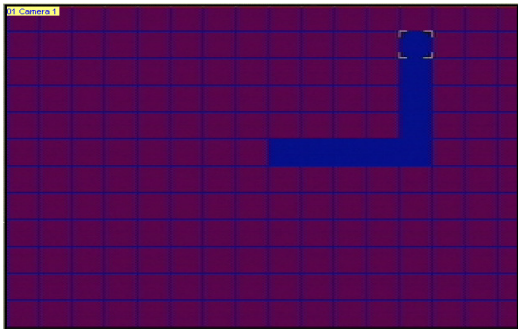
The start area is indicated by the four cursors, move the start cursor using the LEFT, RIGHT, UP, and DOWN keys. Push the ENTER key to enable motion start area and push ENTER key again to disable motion area. The pink shaded area is the motion disabled area.



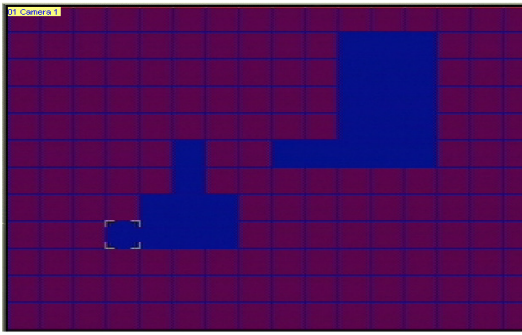
Press “LEFT” or “RIGHT” to choose the width of the area.



Press “UP” or “DOWN” to choose the height of the area, and press “ENTER” again to confirm.



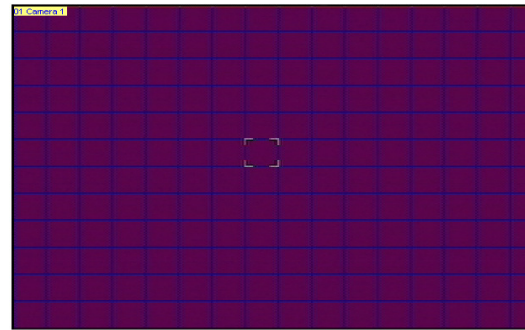
You can also up set up multi-detection areas.



Press - MINUS to set the entire area under motion detection.



Press + to disable motion detection for the entire area.



4) LS (Level of Sensitivity)

Use to set motion detection sensitivity. The smaller the value, the higher sensitivity for motion detection. The highest sensitivity setting is 00, and the lowest sensitivity setting is 15. The default value is 07.

5) SS (Spatial Sensitivity)

Control the number of cells or boxes above that will be used to detect an object in motion. Example: Setting this number to 3 will require an object size to be the same or larger than 3 cells to trigger the motion detection alarm. The smaller the value is, the higher sensitivity for motion detection. The highest sensitivity setting is 00, and the lowest sensitivity setting is 15. The default setting is 03.

Note: The default setting of SS is 03. An object detected by 3 or more grids will trigger the motion detection alarm and start recording or trigger external devices. The SS value must be less than the number of grids that you set up for the motion detection area.

6) TS (Time of Sensitivity)

"TS" sensitivity detects how long one object stays in the detection area and triggers the recording. The smaller the value is, the higher sensitivity for motion detection. The highest sensitivity setting is 00, and the lowest sensitivity setting is 15. The default setting is 02.

7) RE (Reference)

"RE" is to set a reference for detection. The default value is 10, which means the DVR will compare 10 continuous images at one time according to the sensitivity of LS, SS, TS simultaneously. The bigger the value is, the higher sensitivity for motion detection. The highest sensitivity is 61.

8) ALARM

Select LOW to control ALARM INPUT pins 3 ~ 6 on external 15 pin connector. Use ALARM INPUTS to monitor external motion detectors, Infrared sensors and other external devices. The default alarm value is OFF. Use LOW to control pins 3~6, when pins 3 ~ 6 are grounded to 0 volts ALARM recording will trigger.

Note: High/ Normally close - When the voltage is high (around 4V), the alarm is triggered.
Low/ Normally open - When the voltage is low (around 0V), the alarm is triggered.

(2.) Motion Detection Recording Time Duration

1) Go to Main MENU> ADVANCE> ALERT> ALARM DURATION (SEC)

Set the motion record time duration. Press "ENTER" or "+" / "-" buttons to set alarm recording duration seconds. Options 5, 10, 20 or 40 seconds.

NOTE: When using an LCD monitor, and the "MONITOR OUT" setting in the "DISPLAY" menu is set to "MAIN", the motion detection area setting will be disabled.

ADVANCE
CAMERA DETECTION DISPLAY ALERT REMOTE SYSTEM NETWORK BACKUP HDD INFO EVENT LOG

DISPLAY
TITLE DISPLAY ON DATE DISPLAY ON HDD INFO ON LOSS SCREEN BLUE PLAYBACK INFO NORMAL DWELL DURATION (SEC) 2 DE-INTERLACE ON MONITOR OUT MAIN OSD SETUP WATERMARK ON

(3.) Detection Timer

Move the cursor to "DETECTION TIMER", and press "ENTER". Set the date, start time and end time for motion detection.

DETECTION
DETECTION SETUP DETECTION TIMER

DETECTION TIMER
DATE START END OFF 00 : 00 - 00 : 00 DAILY 08 : 00 - 18 : 00 SUN 06 : 00 - 23 : 00 MON-FRI 18 : 00 - 23 : 00 OFF 00 : 00 - 00 : 00 OFF 00 : 00 - 00 : 00 OFF 00 : 00 - 00 : 00

5.8 Display

Change display settings. Select "DISPLAY", and press "ENTER". (MENU> ADVANCE> DISPLAY)

ADVANCE
CAMERA DETECTION DISPLAY ALERT REMOTE SYSTEM NETWORK BACKUP HDD INFO EVENT LOG

DISPLAY
TITLE DISPLAY ON DATE DISPLAY ON HDD INFO ON LOSS SCREEN BLUE PLAYBACK INFO NORMAL DWELL DURATION (SEC) 2 DE-INTERLACE ON MONITOR OUT MAIN OSD SETUP WATERMARK ON

- 1) TITLE DISPLAY
Select to display the channel title (ON / OFF).
- 2) DATE DISPLAY
Select to display the date (ON / OFF).
- 3) HDD INFO
Select to display HDD remaining capacity information (ON / OFF).

4) LOSS SCREEN

Set the video loss screen color (BLUE / BLACK).

5) PLAYBACK INFO

Position playback information: CENTER or NORMAL

6) DWELL DURATION (SEC)

Set CALL MONITOR duration time for each channel. (2 / 4 / 8 / 16 seconds) .

7) DE-INTERLACE

DE-INTERLACE ON/ OFF. De-Interlace can help reduce flicker and various kinds of distortion on some monitors.

8) MONITOR OUT

Select "MAIN" when the video output is a CRT monitor; or "VGA" when the video output is a LCD monitor.

Note: When using a LCD monitor, setting the MONITOR OUT to "MAIN", will disable motion detection area setting. This can be corrected by setting to VGA. D/V monitor output requires a VGA converter (optional) for VGA type monitors.

9) OSD (ON SCREEN DISPLAY)

You can customized OSD color. MENU> ADVANCE> DISPLAY> OSD SETUP

ADVANCE	DISPLAY	OSD SETUP
CAMERA DETECTION DISPLAY ALERT REMOTE SYSTEM NETWORK BACKUP HDD INFO EVENT LOG	TITLE DISPLAY ON DATE DISPLAY ON HDD INFO ON LOSS SCREEN BLUE PLAYBACK INFO NORMAL DWELL DURATION (SEC) 2 DE-INTERLACE ON MONITOR OUT MAIN OSD SETUP WATERMARK ON	MENU TITLE BACKGROUND GREEN MENU BACKGROUND YELLOW CURSOR YELLOW MESSAGE TITLE BACKGROUND RED MENU STYLE 3D MENU TITLE FONT YELLOW MENU FONT WHITE RECORD SYMBOL GREEN ALERT FONT RED

Note: There are 11 colors to choose from: WHITE, YELLOW, CYAN, GREEN, MAGENTA, RED, BLUE, BLACK, GRAY, PURE GRAY, and PURE WHITE.

10) WATERMARK

Using the playback software, users can prove the authenticity of the backup video with the active WATERMARK feature. Anytime backup video is modified, the video image will turn to light red, and the playback will pause.

Note: WATERMARK is always on and cannot be turned off.

5.9 Alert

Select "ALERT", and press "ENTER".
Menu path> MENU>ADVANCE> ALERT

1) EXT. ALERT

Enable or disable sound when external alarm is triggered (ON / OFF).

2) INT. BUZZER

Enable or disable sound (ON / OFF) for all internal buzzers: KEY BUZZER, VLOSS BUZZER, MOTION BUZZER, ALARM BUZZER, and HDD BUZZER.

ADVANCE	ALERT
CAMERA DETECTION DISPLAY ALERT REMOTE SYSTEM NETWORK BACKUP HDD INFO EVENT LOG	EXT. ALERT ON INT. BUZZER ON KEY BUZZER ON VLOSS BUZZER ON MOTION BUZZER ON ALARM BUZZER ON HDD BUZZER ON HDD NEARLY FULL (GB) 05 ALARM DURATION (SEC) 05 PRE-ALARM OFF

- 3) KEY BUZZER
Enable or disable sound when pressing buttons on front panel (ON / OFF).
- 4) VLOSS BUZZER
Enable or disable sound for video loss (ON / OFF).
- 5) MOTION BUZZER
Enable or disable sound when motion alarm is triggered (ON / OFF).
- 6) ALARM BUZZER
Enable or disable sound when internal alarm is triggered (ON / OFF).
- 7) HDD BUZZER
Enable or disable sound when HDD is full (ON / OFF).
- 8) HDD NEARLY FULL (GB)
HDD BUZZER when enabled will trigger if HDD remaining memory is less than 5, 10, or 15 GB.
- 9) ALARM DURATION (SEC)
Press "ENTER" or "+" / "-" buttons to set alarm recording duration seconds. Options 5, 10, 20 or 40 seconds.
- 10) PRE-ALARM
Enable or disable pre-alarm function (ON / OFF). 8MB of data will record before an alarm / motion is triggered, when PRE-ALARM and EVENT RECORDING are enabled,

5.10 Remote

Select "REMOTE", and press "ENTER".

ADVANCE

CAMERA
DETECTION
DISPLAY
ALERT
REMOTE
SYSTEM
NETWORK
BACKUP
HDD INFO
EVENT LOG

REMOTE

TITLE	DEVICE	ID	PROTOCOL	RATE
01	CAMERA	000	NORMAL	02400
02	PTZ	255	P-D	02400
03	CAMERA	000	NORMAL	02400
04	CAMERA	000	NORMAL	02400

- 1) TITLE
Displays camera title for each channel
- 2) DEVICE
Select camera type.
- 3) ID
Set PTZ camera address (0 ~ 255) . PTZ address is displayed on the screen.
- 4) PROTOCOL
Select NORMAL (our protocol) or P-D (PELCO-D) protocol.
- 5) RATE
Set baud rate (2400 / 4800 / 9600 / 19200 / 57600).

Note: For detailed PTZ camera configuration & setup, please refer to PTZ Camera Setup and Control p. 35 and Remote PTZ Camera Control Panel p. 55. PTZ 485 Pin Description p. 59. System Type Serial, baud rate and host ID p. 30.

5.11 System

Select "SYSTEM", and press "ENTER".

1) SERIAL TYPE

Press "ENTER" or "+" / "-" button to set the serial type (RS-485 / RS-232).

2) BAUD RATE

Press "ENTER" or "+" / "-" button to set the baud rate (2400 / 9600 / 19200 / 57600).

3) HOST ID

Press "ENTER" or "+" / "-" button to set the ID (0 ~ 255).

4) IR (Does not apply to this model)

Press "ENTER" or "+" / "-" button to enable or disable IR (ON / OFF).

5) PASSWORD

Press "ENTER" to reset the password (ADMIN PASSWORD or GUEST PASSWORD). Use 4 digits for PASSWORD.

Note: Guest password allows access to view live streaming video, sequence display, shift the channel display, and lock keys.

6) RESET DEFAULT

Press "ENTER" to reset all settings to factory default.

7) CLEAR HDD

Press "ENTER", and select "YES" to confirm clearing HDD. Will delete all data files from HDD.

8) UPGRADE (Does not apply for this model)

9) R.E.T.R. (MIN) (Does not apply for this model)

• **R.E.T.R. Activation**

Press "MENU" + "-" buttons on the front panel to enable R.E.T.R. 3 / 5 / 10 minutes later. A message "R.E.T.R. ON" will be displayed (in white text), and after the RETR is activated, a red message "R.E.T.R." will display on the screen.

• **R.E.T.R. Off**

Press any key (except " or "POWER" buttons) and enter the password to turn off RETR.

10) AUTO KEYLOCK

Set the MENU lock-out time to activate after MENU configuration. AUTO KEYLOCK time options Never / 10 / 30 / 60.

11) LANGUAGE (Support multi-language)

Press "ENTER" to select the language for OSD (ON SCREEN DISPLAY).

12) VERSION

Displays firmware version.

13) VIDEO FORMAT

Displays video format (NTSC / PAL).

ADVANCE

CAMERA
DETECTION
DISPLAY
ALERT
REMOTE
SYSTEM
NETWORK
BACKUP
HDD INFO
EVENT LOG

SYSTEM

SERIAL TYPE	RS-485
BAUD RATE	02400
HOST ID	001
PASSWORD	SETUP
RESET DEFAULT	RESET
CLEAR HDD	HDD MASTER
AUTO KEYLOCK	NEVER
LANGUAGE	ENGLISH
VERSION	1088-10-K2-04-AA-11
VIDEO FORMAT	NTSC

5.12 Network

See Network Section in this manual, page 45.

5.13 Backup

The backup file can be played in a PC using the supplied licensed Video Server **software**. Other **media players** like Windows Media Player or RealPlayer. can be used after the file is converted to an “**AVI**” format. See Video Backup Player page 42.

Note: Backing up from the network requires the supplied AP software on the CD.

Note: Use CH1 for video with audio backup only.

ADVANCE
CAMERA DETECTION DISPLAY ALERT REMOTE SYSTEM NETWORK BACKUP HDD INFO EVENT LOG

BACKUP
USB BACKUP DISK BACKUP

1) USB BACKUP (USB backup is not available on this model)

Before making a USB backup, please check if the:

- USB flash drive is supported. If the USB flash is not supported you will get a error message “USB ERROR”.
For a list of the compatible USB flash drives, please refer to APPENDIX 5 Compatible USB Flash Drives page 63.
- Format USB flash drive using “FAT 32” using your PC.
- Verify USB flash drive is clear of all data before back up. Move the cursor to “BACKUP”, and press “ENTER”.

BACKUP
USB BACKUP DISK BACKUP

USB BACKUP	
START TIME	2006 – 12 – 01 21 : 35 : 00
END TIME	2006 – 12 – 01 21 : 45 : 00
AVAILABLE SIZE	1.460 GB
CHANNEL	• 01 • 02 X 03 X 04
HDD NUM	HDD-MASTER-1
BACKUP TO USB	START

- START TIME
Select the start time for backup.
- END TIME
Select the end time for backup.

- AVAILABLE SIZE
Display USB flash drive capacity.
- CHANNEL

Select channel by pressing the “ENTER” button and use the symbols X or ● to select or deselect channels for backup.

“X” channel is not selected for backup.

“●” channel is selected for backup.

- HDD NUM
Press “ENTER” to select the HDD containing the backup data.
- BACKUP TO USB
Press “ENTER” to start copying to USB flash drive.

2) DISK BACKUP (CD writer backup not available on this unit)

Only Use CD-R CD's for backup. 41 is the maximum number of backup files per CD.

Note: A file player called “BACKUP PLAYER” installs on every CD during the backup process so you can view backup files from any PC.

- “DISK BURN FINISH” will display on the screen after CD backup is complete, press “EJECT” button to eject CD.
- Place CD into the PC CD-ROM drive. Convert to AVI format by double clicking on the file.

Note: Supports Windows 2000 and Windows XP.

5.14 HDD Info

Displays HDD remaining memory.
Select “HDD INFO”, and press “ENTER”.

ADVANCE	HDD INFO			
CAMERA DETECTION DISPLAY ALERT REMOTE SYSTEM NETWORK BACKUP HDD INFO EVENT LOG	HDD NUM	HDD SIZE	HDD NUM	HDD SIZE
	MASTER-1	368	SLAVE-1	NO HDD
	MASTER-2	NO HDD	SLAVE-2	NO HDD
	EXT-001	NO HDD	EXT-002	NO HDD
	EXT-003	NO HDD	EXT-004	NO HDD
	EXT-005	NO HDD	EXT-006	NO HDD
	EXT-007	NO HDD	EXT-008	NO HDD
	EXT-009	NO HDD	EXT-010	NO HDD

5.15 Event Log

View all the event information (event type, time and channel)
or clear all log records.
Move the cursor to “EVENT LOG”, and press “ENTER”.

- 1) VLOSS LIST
Show video loss time.
- 2) NET LIST
Show net login time.

ADVANCE	EVENT LOG
CAMERA DETECTION DISPLAY ALERT REMOTE SYSTEM NETWORK BACKUP HDD INFO EVENT LOG	VLOSS LIST NET LIST SYSTEM LOG OTHERS CLEAR ALL

3) SYSTEM LOG

Show system error codes. Reference error code list below:

Error Code in "SYSTEM LOG":

- 1) SYS ERR 01-YYY #define SYS_ERR_AV087_ERR 1)
A.) YYY=000
B.) YYY=001- AV087
- 2) SYS ERR 02-XXX #define SYS_ERR_AV087_BUF_FULL
- 3) SYS ERR 03-XXX #define SYS_ERR_AV087_BUF_EMPTY
- 4) SYS ERR 04-XXX #define SYS_ERR_IDE_ERR
- 5) SYS ERR 05-XXX #define SYS_ERR_SCAN_DISK
- 6) SYS ERR 06-XXX #define SYS_ERR_TOP_FAT_ERR
- 7) SYS ERR 07 (including 08, 09, etc.)-XXX #define

Description:

Compression error
Audio chip error
Chip for CH1-4 error
Buffer is full
Buffer is empty
IDE interface error
Disk scanning error
File system error
HDD error

4) OTHERS

Display "power on / off", "unlock" and "reset to default" time information.

5) CLEAR ALL

Clear all event log lists.

5.16 Search

View events recorded, or search any specific events by event or time.

Press "SEARCH" button on the front panel.

1) HDD-MASTER-1

Press "ENTER" to select HDD if there are more than 1.

2) FULL LIST

Show all recorded type files. **R:** RECORD/ **S:** SYSTEM/ **A:** ALARM/ **MS:** MOTION/ **T:** TIMER

3) RECORD LIST

List of manual-recorded files.

4) SYSTEM LIST

List of system-recorded files.

Under manual recording mode, system will save one recorded file every hour.

5) ALARM LIST

List of alarm-triggered-recorded files.

6) MOTION LIST

List of motion-triggered-recorded files.

7) EVENT SEARCH

Playback recorded files by date, time (YEAR / MONTH / DAY / HOUR / MIN), channel, HDD, and event type (motion / alarm triggered recording).

8) TIME SEARCH

Search recorded files by date and time (YEAR / MONTH / DAY / HOUR / MIN).

Note: files will be played in fast forward use slow button to slow down video.

SEARCH

HDD-MASTER-
FULL LIST
RECORD LIST
SYSTEM LIST
ALARM LIST
MOTION LIST
EVENT SEARCH
TIME SEARCH

6.0 Additional Operation

6.1 Key Lock and Unlock

- Key Lock On: Press “MENU” + “ENTER” buttons on front panel to lock keys.
- AUTO KEYLOCK: Set the time duration for key lock activation (Never / 10 SEC / 30 SEC / 60 SEC). See SYSTEM, AUTO KEYLOCK page 35.
- Key Lock Off: Enter password to exit “Key Lock” mode. (Same password used for MENU entry)
Note: See Password page 31.

6.2 Switch NTSC / PAL System (For DVQ-2 only)

- Switch to NTSC System ( or POWER + ◀◀):

Press “POWER” button on front panel to shutdown. Then, press and hold “◀◀” first, and press “POWER” to switch to NTSC system. (Press the buttons until the monitor displays video.)

- Switch to PAL System (or POWER +): (Not used in the U.S.)

Press “POWER” button on front panel to shutdown. Then, press and hold “◀◀” first, and press “POWER” to switch to PAL system. (Press the buttons until the monitor displays video.)

Note: The DVR will automatically detect PAL/ NTSC. You can also manually switch between PAL and NTSC.

6.2 Switch NTSC / PAL System (For DMR 4, 8, 16 RT only)

- 1) Press “POWER” button on the DVR front panel to shutdown. Then press and hold “▶” first, and press “POWER” to switch to PAL system. (Press the buttons till the monitor shows the video image of the DVR)
- 2) Press “POWER” button on the DVR front panel to shutdown. Then press and hold “◀” first, and press “POWER” to switch to NTSC system. (Press the buttons till the monitor shows the video image of the DVR.)

6.3 Upgrade

(1) Firmware / Multilanguage OSD Upgrade

- Use USB to upgrade:
Format the USB memory to FAT 32. Get the upgrade files from your distributor. Save the upgrade files to your USB memory (do not change the file name). Go to "MAIN MENU" → "SYSTEM" → "UPGRADE", and press the "ENTER" button. Select "YES", and press "ENTER" button again to confirm upgrade. To view firmware version refer to the main menu > SYSTEM> VERSION page 31.
- Use Remote Video Server software on your CD to upgrade firmware see Video Server login panel page 43:



At login page enter the user name, password, IP address and port. Then, press " " button to upgrade firmware or OSD language files. The provided firmware and OSD files should be saved to your PC.

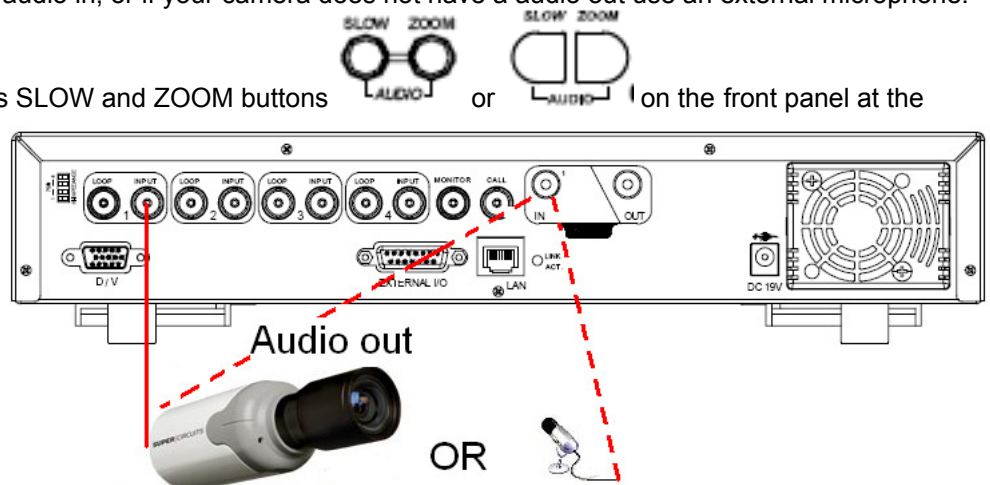
6.4 Audio Backup and Playback

For audio use channel CH1

Audio hardware connections

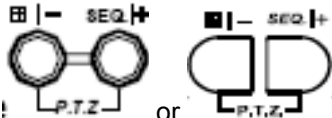
1. Connect camera audio out to DVR audio in, or if your camera does not have a audio out use an external microphone.

To select live or playback sound, press SLOW and ZOOM buttons on the front panel at the same time.



6.5 PTZ Camera Setup and Control

- PTZ connections, see page 61:
- PTZ System Setup: ID, protocol, baud rate setting at the DVR side: See lines 1,2 and 3 page 31
- PTZ remote control panel using Video Server software: See page 45 and 57
- PTZ ID, protocol, baud rate settings using the remote Video Server software: See System Config/ DVR/ Device Setup page 48.
- PTZ Camera setup: See lines 1, 2, 3, 4, and 5 page 30.



Press these two buttons on the DVR front panel at the same time to enter / exit the PTZ control mode.

In the PTZ control mode, press “+” button to zoom in, press “-” button to zoom out, and press “UP”, “DOWN”, “LEFT” or “RIGHT” buttons on the DVR front panel to adjust the PTZ angle.

DVQ-2 RS485



Use **PIN 10**, and **PIN 11** to control 485 devices

DMR 4, 8, 16 RT

RS 485 2: RS485B
3: RS485A



6.6 R.E.T.R. Setup (Not available on this model)

Note: Set motion detection area before activating R.E.T.R.

(1) Setup Motion Detection:

Activate motion detection and setup the motion detection area and sensitivity. Please refer to section “6.4.2 Detection” at page 18, or section “(2) Detection” at page 40 (AP software system configuration).

(2) Activate the R.E.T.R:

- Press “Menu” and “-” buttons on the front panel at the same time, this will activate R.E.T.R. in 3 / 5 / 10 minutes later. “R.E.T.R. ON” will display on the screen (in white text), and after the RETR is activated, the message “R.E.T.R.” will display on the screen and turn to red.
- From AP software at remote PC/NB side:
Press “R.E.T.R.” button on the AP control panel to activate the R.E.T.R. immediately.
- From IR transmitter:
Press “R.E.T.R.” or “F3” button on the IR remote control to activate the R.E.T.R. in 3 / 5 / 10 minutes later.
Please refer to the IR transmitter manual.

(3) Turn off the R.E.T.R:

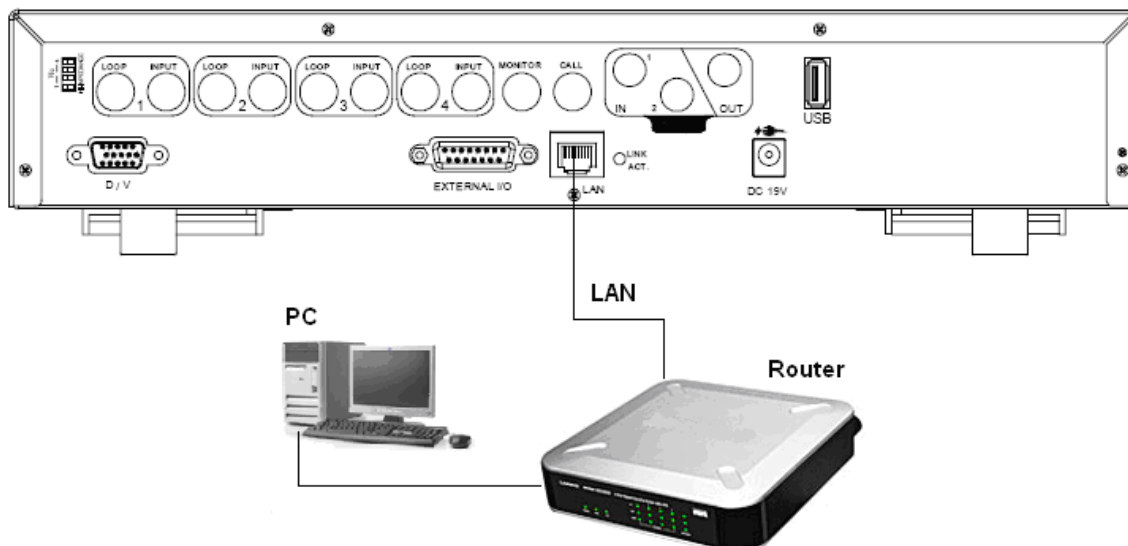
- Press any key (except for “” or “POWER” button) and enter the password to turn off R.E.T.R.
- From AP software at remote PC/NB side:
Press “R.E.T.R.” button on the AP control panel again to turn off the R.E.T.R.
- From IR transmitter:
Press any key (except “POWER” button) and enter the password to turn off the R.E.T.R.

7.0 NETWORKING

View video from your PC anywhere in the world by connecting your DVR LAN connection to your network system.

7.1 Things to do before networking your DVR

1. Connect DVR LAN connection to your LAN router. (Read Networking your DVR User Guide)



2. To connect to the world wide area network for remote viewing you **must configure your router to allow port forwarding**. Super Circuits does not provide technical support for router setup. Contact your service provider/ router manufacturer for support on setting up port forwarding. Use port number **8000**.
3. Do you have a dynamic or static IP address? Note: Static IP address is highly recommended, because of the video connection reliability. Call your IP provider about setting up a static IP address for your DVR.
4. Make sure you have DirectX version 9.0c on your computer. If not go to www.microsoft.com/directx
5. Make sure that you have the following information from your IP provider or IT department:
 - A. IP address.
 - B. Subnet Mask.
 - C. Default Gateway.
 - D. If there is a DNS number.
 - E. If DHCP settings are allowed set your DVR to "**Manual**" not "**Automatic**".
 - G. Next verify your IP address (*for your domain*) by going to www.whatismyip.com. This is the IP address you will use to log in remotely.
1. Access your DVR network settings by going to **MENU / ADVANCE/ NETWORK**. Set **IP, ADDRESS, GATEWAY, NETMASK** and **WEB PORT**.

MENU

RECORD
TIMER
DATE
ADVANCE

ADVANCE

CAMERA
DETECTION
DISPLAY
ALERT
REMOTE
SYSTEM
NETWORK
BACKUP
HDD INFO
EVENT LOG

2. Select "NETWORK", and press "ENTER".

ADVANCE
CAMERA DETECTION DISPLAY ALERT REMOTE SYSTEM NETWORK BACKUP HDD INFO EVENT LOG

NETWORK	
NETWORK TYPE	STATIC
DNS	168. 95. 1. 1
PORT	0080

3. NETWORK TYPE

There are 3 network types: STATIC, PPPOE and DHCP.

- STATIC

Select NETWORK TYPE, press "+" or "-" button to set the network type as STATIC, and then press "ENTER" to enter submenu. Use "+" or "-" button to set IP, GATEWAY and NETMASK.

4. Enter your IP, Gateway and Netmask and hit the **MENU** key to exit **STATIC** menu.

NETWORK	
NETWORK TYPE	STATIC
DNS	168. 95. 1. 1
PORT	0080

STATIC	
IP	160 . 121 . 346 . 236
GATEWAY	160 . 121 . 346 . 236
NETMASK	255 . 255 . 255 . 254

5. In **NETWORK** menu select **DNS** and enter IP address of the domain server obtained from your ISP (Internet Service Provider).

NETWORK	
NETWORK TYPE	STATIC
DNS	168. 95. 1. 1
PORT	0080

6. Select PORT and enter 8000.

6. Exit all menus by pressing the MENU key and turn your DVR off by hitting the power key and holding for about 3 seconds. Then turn your DVR back on to continue by pressing the power button.

NETWORK	
NETWORK TYPE	STATIC
DNS	168. 95. 1. 1
PORT	8000

NOTE: If your using other NETWORK TYPE settings like PPOE or DHCP continue on, Otherwise if your using **STATIC NETWORK TYPE** continue on to **TEST YOUR CONNECTION** page 48.

- PPPOE
PPPoE needs one “username” and “password” subscribed from ISP provider.

NETWORK	
NETWORK TYPE	PPPOE
DNS	168. 95. 1. 1
PORT	0080

PPPOE	
IP	160 . 121 . 346 . 236
GATEWAY	160 . 121 . 346 . 236
NETMASK	255 . 255 . 255 . 254

- DHCP
The DHCP function needs to be supported by a router or a cable modem network with DHCP services.

Note: DHCP and PPPoE network types need to apply for DDNS services to get “Hostname”.

NETWORK	
NETWORK TYPE	DHCP
DNS	168. 95. 1. 1
PORT	0080

DHCP	
IP	160 . 121 . 346 . 236
GATEWAY	160 . 121 . 346 . 236
NETMASK	255 . 255 . 255 . 254

Setting up DDNS

You need to apply for a DDNS account before setting up your PPPoE or DHCP connection.

- Go to a website that provides free DDNS services and apply for a “Hostname”. For example, use <http://www.dyndns.com>.
- Sign up for an account.
- Log in with your account information and click “My Service”.
- Click “Add Host Services”.
- Click “Add Dynamic DNS Host”.
- Fill in and choose the desired host name.
- The host name is created. You will be connected to the corresponding IP addresses whenever you enter this hostname.

Dynamic IP- PPPOE

- 1) Build a Local Area Network (LAN) between the DVR and PC/NB using network cables: Your NB/PC and DVR must be under the same network domain to build the area network. Change the PC/NB IP address to 192.168.1.X (X can be any number between 1~255, except 10). Change the subnet mask to 255.255.255.0.

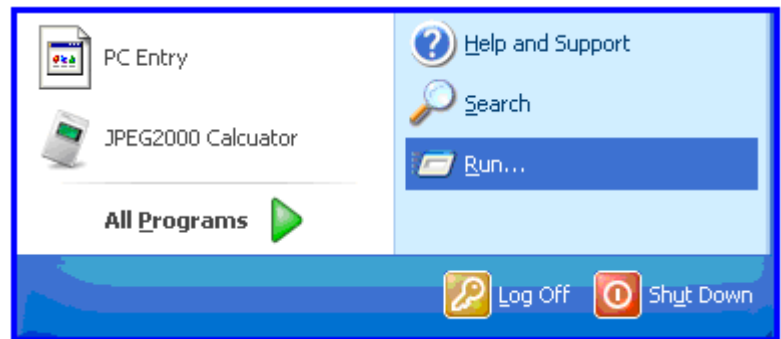
Install the Video Server software on your NB/PC. Login to the DVR using the Video Server software using the following default DVR settings.

- The DVR default IP address: 192.168.1.10
- The DVR default account / password: admin
- The DVR default port: 80

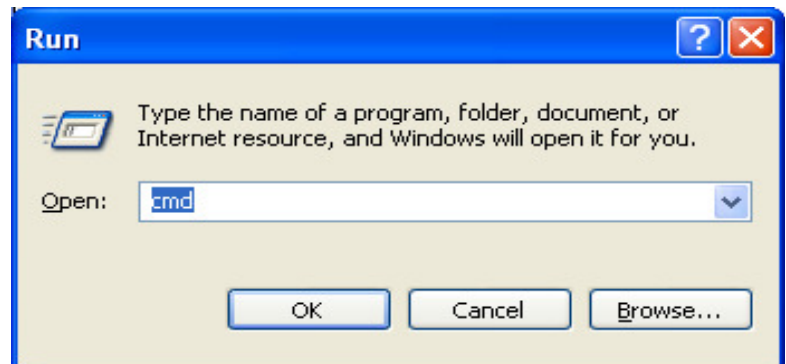
- 2) Set the DVR network setting in “SYSTEM CONFIG” using Video Server → select “**PPPOE**” in “IP TYPE”. Type the “**User Name**” and “**Password**” given to you from your ISP. Press “**APPLY**” button to confirm the setting.
- 3) Set the DVR DDNS settings in the “SYSTEM CONFIG” → using Video Server:
 - DDNS: Choose “Enable”.
 - User Name: Type your **DDNS account**.
 - Password: Type your **DDNS password**.
 - Domain: Type the “**Host Name**” (EX: securityanytime.dyndns.org).
 - System Name: Choose the **DDNS server** where you applied the domain name (EX: dyndns).
 - After setting, press “**APPLY**” button to confirm
- 4) After setting up the DVR network settings connect to the network, and type the DDNS host name, default user name and password using Video Server login window.

7.2 Test your connection

1. Return to your computer: go to the PC start menu and select “**Run**”

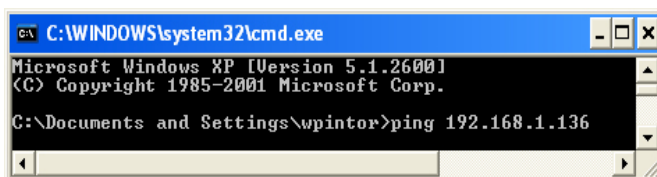


2. Type “**cmd**” and click “**OK**”.



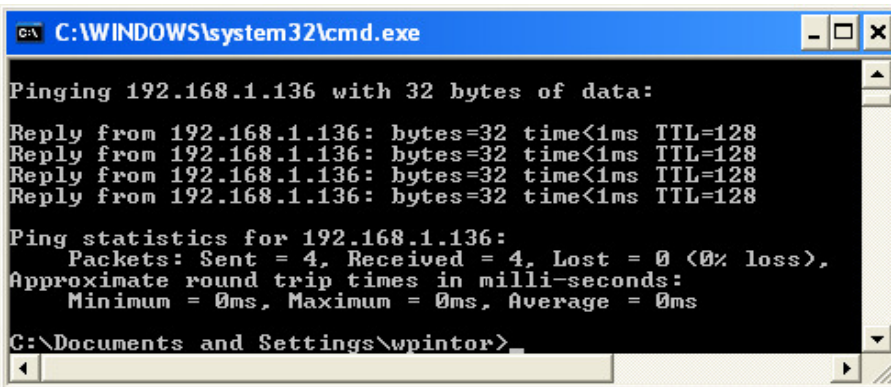
3. A black box called the Dos window will pop up with a “C” prompt. After the “C” prompt type “**ping**” at the dos prompt, hit the space bar once and type in the **IP address of the DVR** and then click “**>ENTER**”.

FIG.1



4. The Dos window will display “Reply from” the IP address 3 to 4 times. You will see “Packets sent = X, Received = X and Lost = X. This will tell you that, you’ve successfully connected to your DVR and we can proceed. Like **FIG.2** below.

FIG.2



```
C:\WINDOWS\system32\cmd.exe

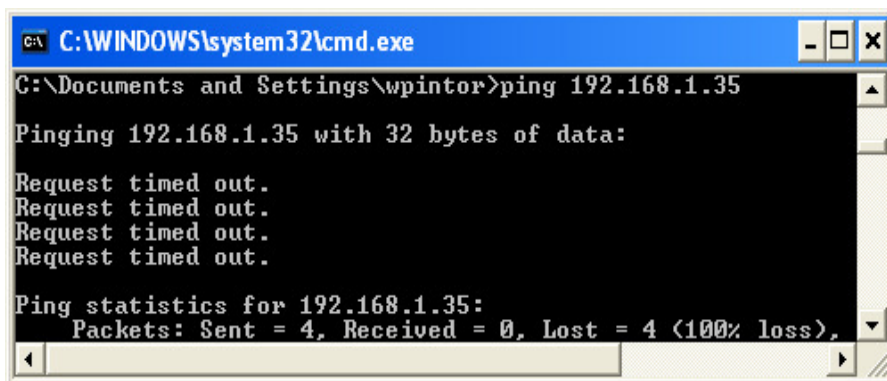
Pinging 192.168.1.136 with 32 bytes of data:
Reply from 192.168.1.136: bytes=32 time<1ms TTL=128
Reply from 192.168.1.136: bytes=32 time<1ms TTL=128
Reply from 192.168.1.136: bytes=32 time<1ms TTL=128
Reply from 192.168.1.136: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.136:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Documents and Settings\wpintor>
```

5. If you see “**Request timed out**” and “Packets: Sent X, Received = X, Lost = X” like **FIG.3** below, then you have not established a LAN connection between the DVR and the computer. You will need to recheck all DVR network settings above, check with IP provider or IT department, router settings. Make sure cables are good, and connected. This could also be due to a bad cable between the DVR and router or bad *DVR Network Interface Controller (NIC)*. Check the Ethernet cable connection on the back of the DVR and check for green lights and that they blink when you “ping” the DVR. If it is not blinking, this could indicate that the DVR’s network interface card is bad and call us for tech support. If green light is blinking, as a final check, connect the DVR **directly** to the computer using an Ethernet “**crossover cable**” (which is available at any electronics store such as Radio Shack, or Best Buy, Circuit City, etc...) eliminating all other cables and equipment. Crossover cables are only used for testing purposes and repeat the pinging process. If after connecting the crossover cable and you are successful in pinging your DVR, the problem is with your router, cables or the IP address. Check with your IP provider, check your cables and make sure your router is configured for port forwarding. If you’re not successful in pinging your DVR call Supercircuits for technical help.

FIG.3



```
C:\WINDOWS\system32\cmd.exe

G:\Documents and Settings\wpintor>ping 192.168.1.35

Pinging 192.168.1.35 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.35:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```



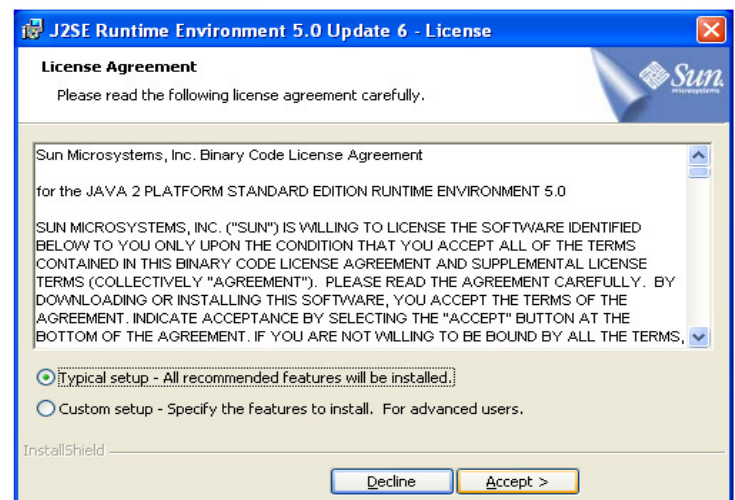
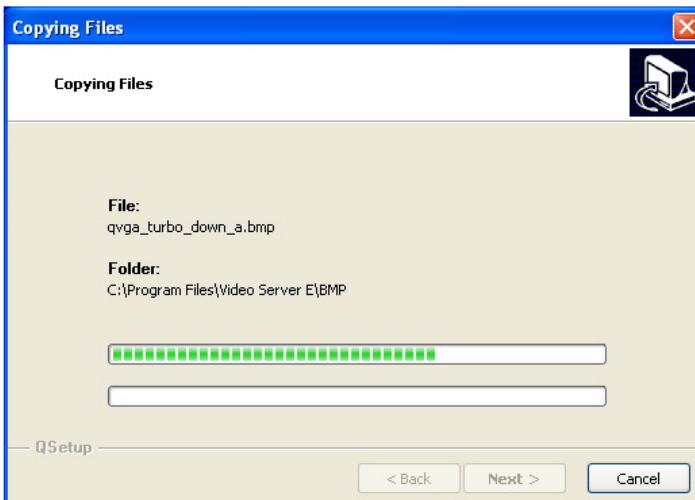
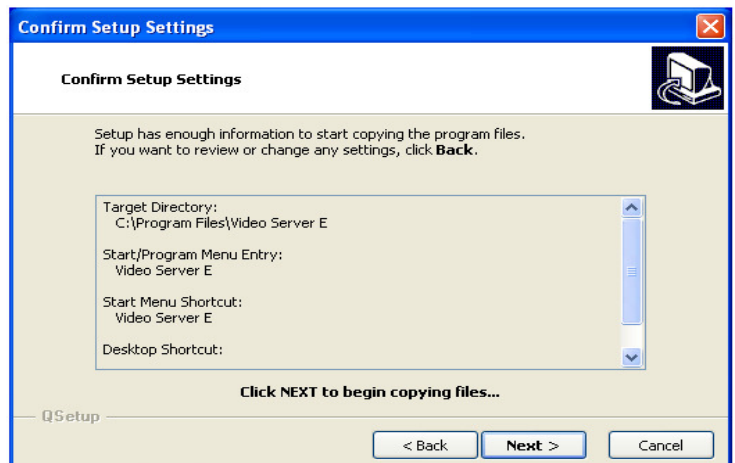
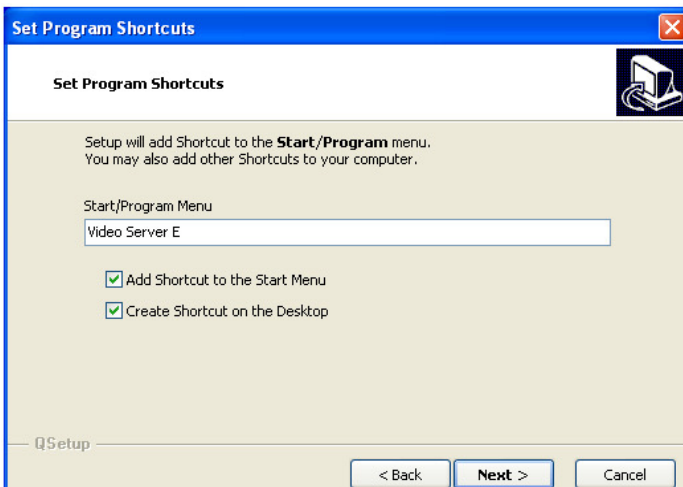
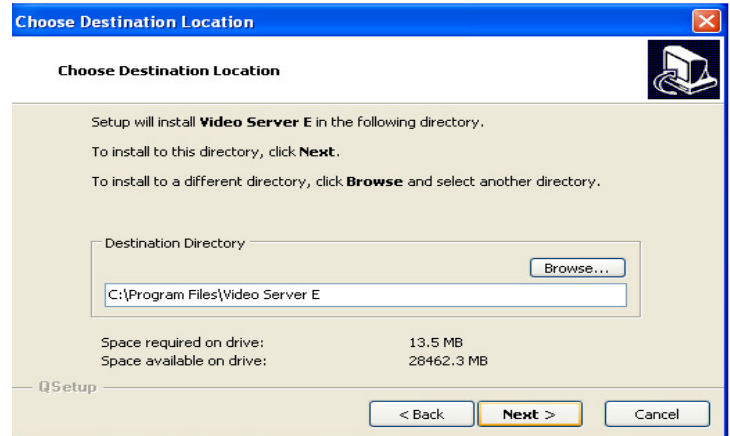
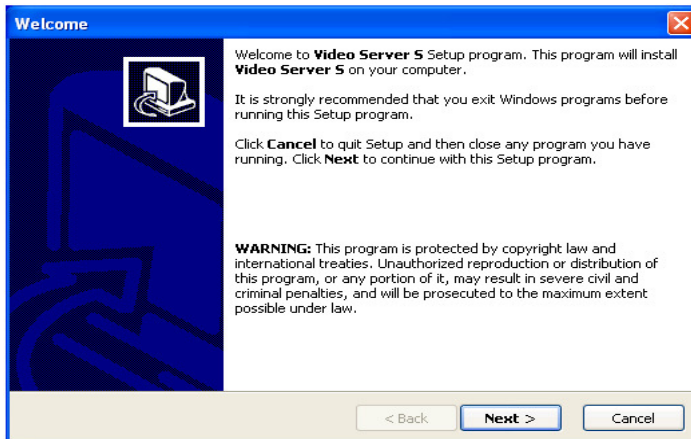
6. If you’re looking at **FIG.2** then you have demonstrated that a Local Area Connection (LAN) has been made between the DVR and the computer. Proceed to Software installation.
7. Install the CD that came with your DVR into the PC and install **Video Web Server**.

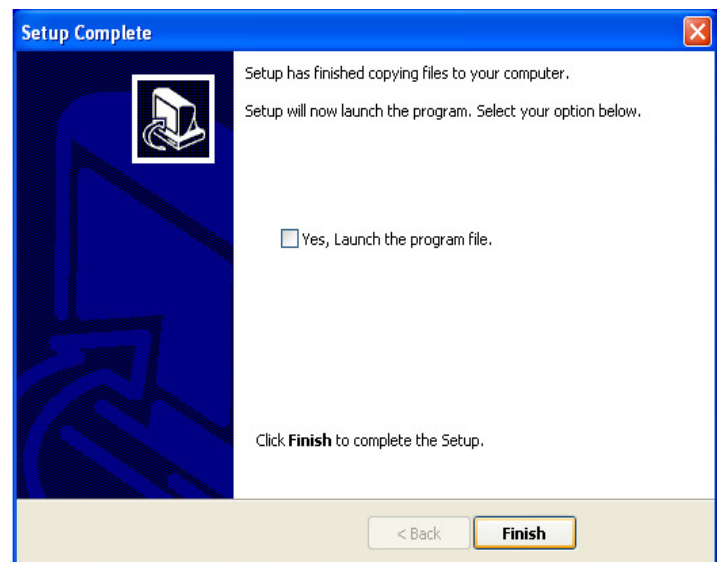
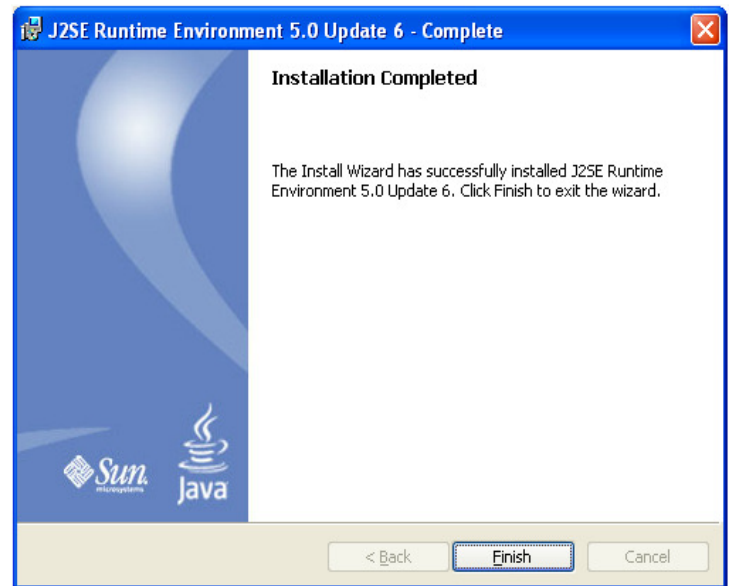
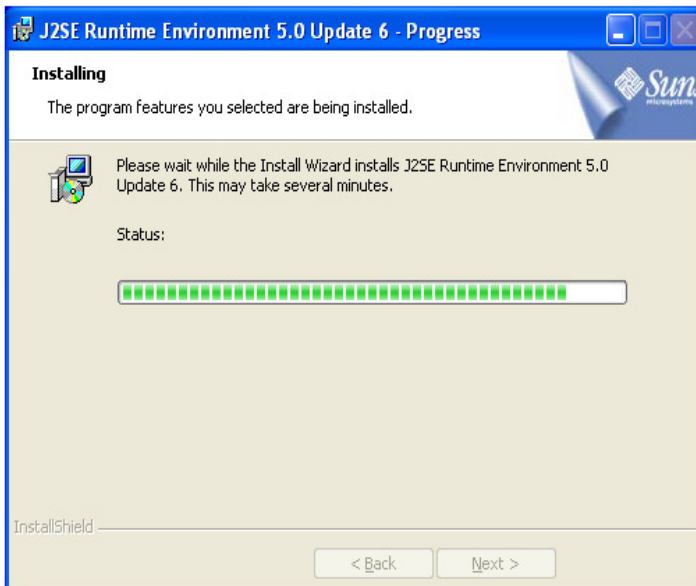
7.3 Software Installation

7.4 Installation

1) Install the software:

Place the included CD disk into the CD-ROM drive, and install the Video Server and JAVA programs on to your PC. During the software installation you will step through the dialog sequence below. In some installations JAVA might not install because the files are already updated.





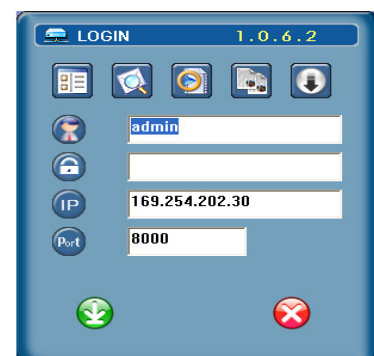
2. After setup, you will see the Video Server S shortcut icon on the desktop. For the latest AP software updates, please check with your distributor.

7.5 Remote Video Server Login Panel



3. Double click "Video Server S for DVQ2, D..." (Video Server) on your PC to enter the login page. Key in IP address (192.168.1.10), username (admin), password (admin) and port (8000) in the login page.

NOTE: Factory default user name is **ADMIN**, Password is **ADMIN**.



Remote Video Server LOGIN WINDOW



Address Book

Press Address Book button to add a new IP address into the IP address book, or choose any preset IP address to access the software AP software.



Copy

Press Copy button to copy all the software installation files, and keep all the settings of the video web server for next software installation on another PCs.



Search

Search available DVR IP addresses in the local area network and modify the network setting of the DVR.



Upgrade Firmware

Press Upgrade Firmware button to upgrade DVR firmware or OSD language files. The provided firmware and OSD files should be saved on PC first.



Player

Press Player button to access and play the latest recorded file on your PC.

4. Enter User ID, password, IP address and port 8000. Click on green button and you should see live video.

7.6 Control Panel

a. Data Transfer Rate

b. Image Transfer Rate Per Second

c. Connect / Disconnect

d. Resolution:

NTSC: 320 × 228; 640 × 450; PAL: 320 × 276;
 640 × 552

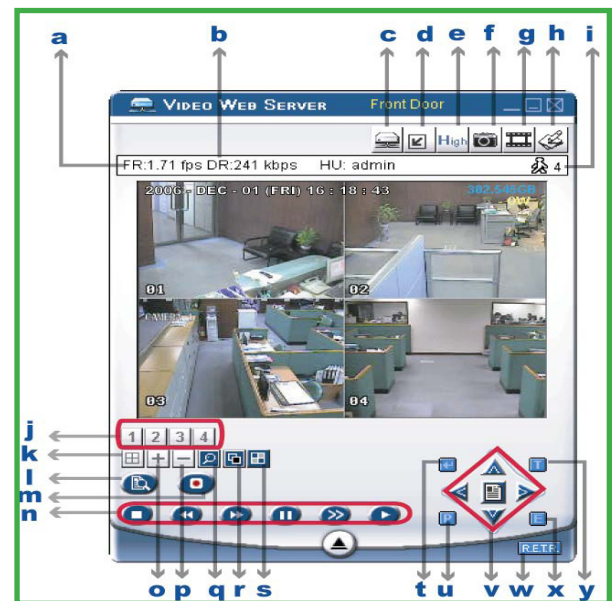
e. Image Quality (High Medium Low)

f. Snapshot

Press Snapshot button to take a snapshot of an image. Specify destination in "SYSTEM CONFIG" → "FILE PATH" → "Snapshot Path".

g. Record

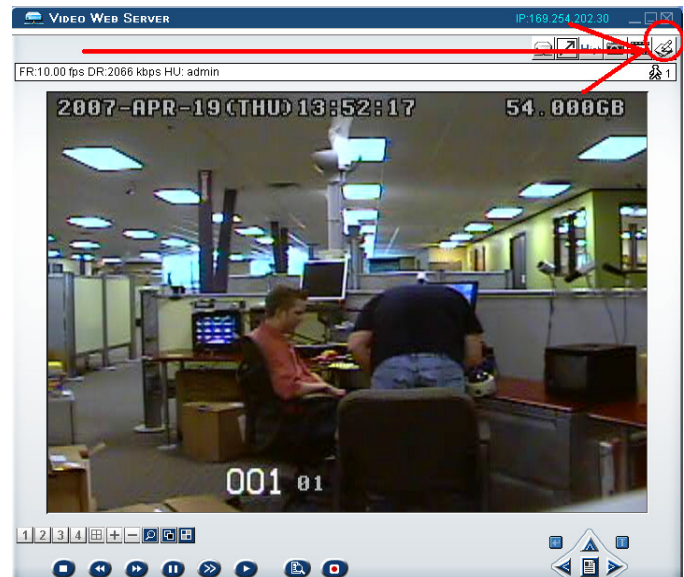
Start recording, and press again to stop. Maximum file size is 18,000 video frames and will automatically generate new files after 18,000 frames. Video server will stop recording when hard drive is showing less than 200MB.



- h. System Config : Allows you to configure Network, DVR, Alarm and General settings. Very powerful tool for remote control of your DVR. Will discuss the System Config in more detail in this section.
- i. Number of Online Users 
- j. CH 1 ~ 4 
- k. 4 Channel Display 
- l. Search : Enter DVR search menu.
- m. Record 
- n. Stop  / Fast Rewind  / Fast Forward  / Pause  / Slow Playback  / Play 
- o. 
- p. 
- q. Digital Zoom : Digital zoom in/out
- r. Set :
 Press to change channel display position.
 Press “UP”, “DOWN”, “LEFT”, “RIGHT” buttons to select channel.
 Press “+” or “-” to select channel display.
 Press “Enter ” button to confirm the setting.
- s. Sequence :
 Activate call monitor function, and press again to exit. When motion is detected, the monitor will display motion triggered channel.
- t. Enter : Used to confirm settings or enter a selection.
- u. PTZ Control On / Off:
 Use to select the PTZ device, press “OK” button to enter selected PTZ. Press “ESC” to exit from PTZ control.
- v. Menu  / Up  / Down  / Left  / Right :
 Used to enter the PTZ menu /
- w. **(Not used)** R.E.T.R. (Remote Event Trigger Recording) :
 Used for remote PC alarm notification, and will record alarm files.
- x. Search DVR Video Data :
 Set data search criteria.
- y. Turbo ON/ OFF :
 Use to speed up menu selection or control PTZ camera. Turbo step options 1 to 30.
 Example: Setting turbo step to 3 will increase the speed of your up/down/left/right moves by 3.

7.7 System Config

Allows you to remotely configure Network, DVR, Alarm and General settings. Double click on System Config



7.8 NETWORK:

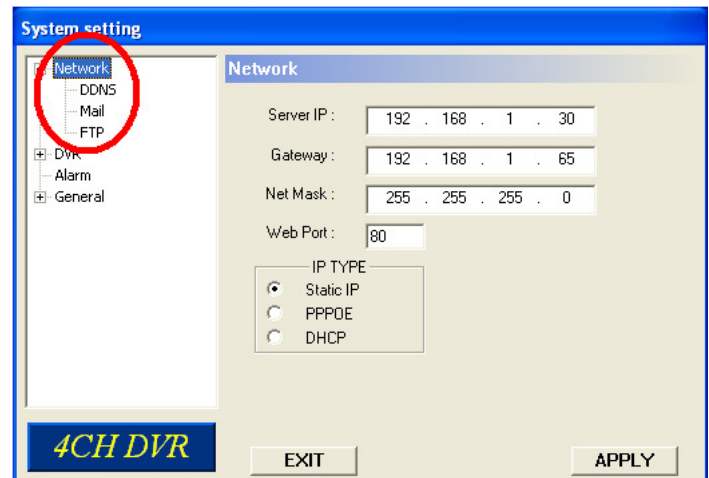
The network configuration allows the DVR to connect to an LAN or Internet using Static IP, PPPoE or DHCP. Static IP is highly recommended because of the reliability. PPPoE and DHCP network connection types are required to apply for a DDNS service.

- **Web Port:**

The DVR can be viewed over the network with the Video Web Server or the IE web browser. TCP port used by HTTP is 80. In some cases, it is better to change this port number for added flexibility or security. The valid web port number ranges from 1 to 9999.

- **Static IP:**

Use the "Network" menu, choose a "Static IP", and enter the "Server IP", "Gateway", "Net Mask" and "Web Port". Press "APPLY" button to enter.

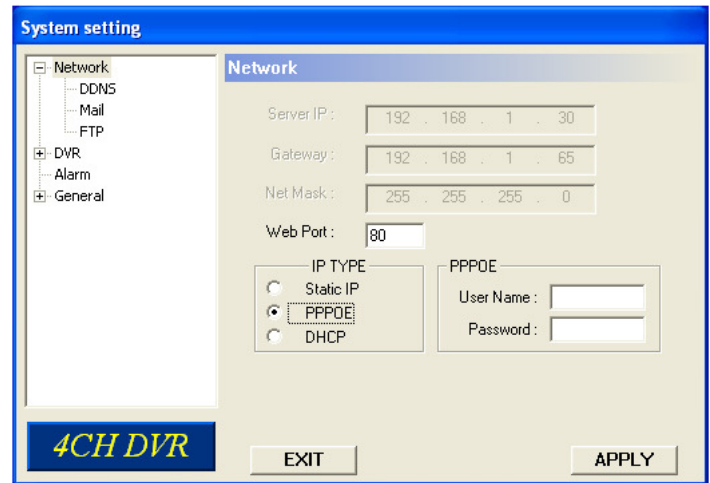


- **PPPoE:**

PPPOE stands for Point-to-Point Protocol over Ethernet. Obtain ADSL service from ISP. Obtain and install PPPoE software. Choose “PPPOE” and enter the “User Name”, “Password” from your ISP (Internet Service Provider) and “Web Port”. Select “Network DDNS to set DDNS settings (see **DDNS” on page 37 for details**). When all the settings are completed, press “APPLY”.

- **DHCP:**

Choose “DHCP” IP type. Then, select “Network” → “DDNS” to set DDNS settings (see **“(1) DDNS” at page 37 for details**). When all the settings are



(1) DDNS

You will need to apply for a DDNS account before setting PPPoE or DHCP connection. DDNS is a service for transforming the dynamic IP to a specific “Hostname”. Go to a website that will provide free DDNS services and apply for

- **Enable DDNS:**

- a. DDNS: “Enable”.
- b. User Name: Type your DDNS account.
- c. Password: Type your DDNS password.
- d. Domain: Type the “Host Name” you applied for previously (EX: securityanytime.dyndns.org).
- e. System Name: Choose the DDNS server where you applied for the domain name (EX: dyndns).
- f. Auto: If you select “DHCP” option in “Network” menu.
- g. You can check the “AUTO” option to automatically assign the IP address.

(2) Mail

When alarm-trigger is triggered an e-mail notification will send an e-mail notification to the specified recipients once. Enable the e-mail notification in the “Alarm” menu.

Note: Users can assign up to 4 mail accounts for E-mail notification.

- **Mail Notification:**

- a. Add the recipients’ E-mail accounts in “Mail Account” column.
Type the entire E-mail address in the “Mail from” column to ensure E-mails will not be blocked by SMTP.
For detailed information (SMTP server, username and password), please check with your E-mail service supplier.
- b. Some mail servers are required to verify the password. Please enter the “user name” and “password”.
- c. After setting, press “APPLY” to confirm.

(3) FTP

When the alarm-trigger is triggered the FTP notification is activated, and will upload the captured images to the specified FTP site. Enable FTP notification in the “Alarm” menu.

- **FTP Notification:**

- a. Enter the detailed FTP information.
- b. After setting, press “APPLY” to confirm.

7.9 DVR

Camera channels can be adjusted independently. Select the desired camera channel and press “Edit” to enter.

DVR: Selecting DVR will allow you to make changes to cameras, motion, create backup files, search file options, schedule recording and record settings.

NO.	TITLE	BR	CT	SU	HU	COV	REC
1	01	110	128	128	128	NO	YES
2	02	110	128	128	128	NO	YES
3	03	110	128	128	128	NO	YES
4	04	110	128	128	128	NO	YES

DEVICE: Remotely title or name your cameras. Use ID, protocol and rate for PTZ type cameras.

NO.	DEVICE	ID	PROTOCOL	RATE
1	PTZ	0	NORMAL	2400
2	CAMERA	0	NORMAL	2400
3	CAMERA	0	NORMAL	2400
4	CAMERA	0	NORMAL	2400

7.10 Detection

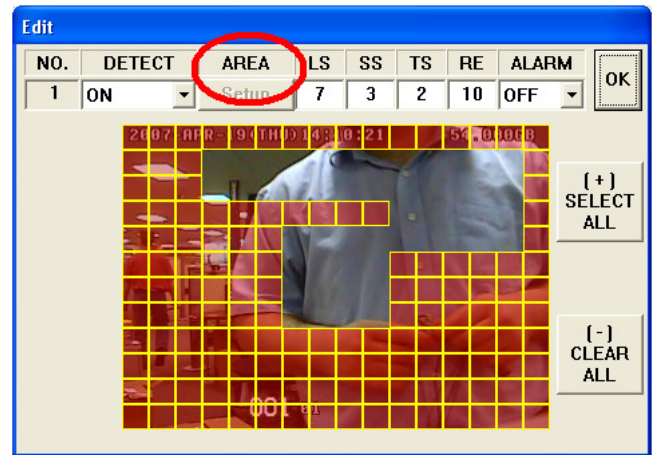
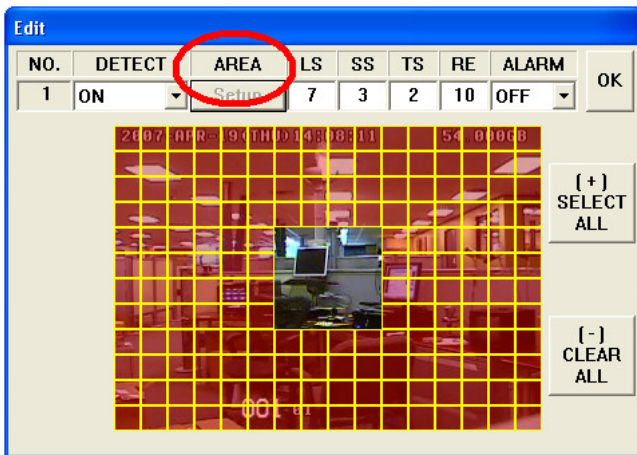
Select the channel, and press “Edit” button to enter the motion detection sensitivity and area-setting page.

NO.	DETECT	LS	SS	TS	RE	ALARM
1	OFF	7	3	2	10	OFF
2	OFF	7	3	2	10	OFF
3	OFF	7	3	2	10	OFF
4	OFF	7	3	2	10	OFF

NO.	DETECT	AREA	LS	SS	TS	RE	ALARM
1	ON	Setup	7	3	2	10	OFF

Select AREA to setup motion area.

- a. DETECT (motion detection):
Select motion detection function ON / OFF.
- b. AREA (motion detection area):
Set the motion detection area by selecting the area grids with your mouse. Pink blocks represent the area that is not being detected while the transparent blocks are the area under detection.
Press “+” to set the whole area under detection.
Press “-” to set the whole area undetected.
- c. Motion Detection Sensitivity:
Set the detection sensitivity (LS / SS / TS / RD).
- d. Alarm:
LOW / HIGH for the alarm polarity.
- e. Press “OK” and then press “APPLY” button to confirm.



7.11 Network Backup

You can backup recorded data from the DVR directly to your PC and CD through the network. The backup file can be played in the PC with the remote Video Server, or other media players (Ex: Windows Media Player or RealPlayer) after the file is converted to “AVI” format.

• Enter the backup information:

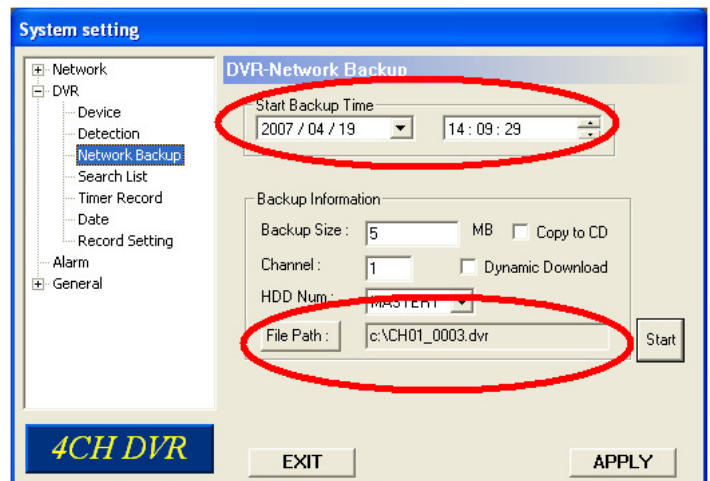
If you want to make a backup CD, check “Copy to CD”.

If you want to view the backup image while the backup is processing, check “Dynamic Download”.

After entering the backup information, press “Start” button to start the backup process.

Note: For CD backup, install “NERO” CD burning program.

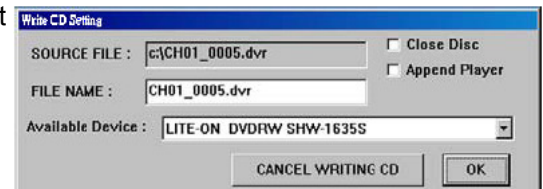
Note: Maximum file size for Network Backup is 500MB.



After pressing “Start”, “**Write CD Setting**” pop-up window will display. Select “Close Disc” if your done burning. Select “Append Player” to install a video player software on the CD, allowing you to play the CD from any PC.

Press “OK” to start CD backup, or press “CANCEL WRITING CD” to backup files on the PC. When processing, “DVR-Network Backup” window will display “Writing cd ...” message and status bar.

When CD is completed, the CD will eject, and a “DVR Network Backup” pop-up window will display “**Download process is finished**” message. Press “PLAY” button to play the file, or “Exit” to quit.



7.12 VIDEO BACKUP PLAYER

a. Time Bar

b. Playback Information

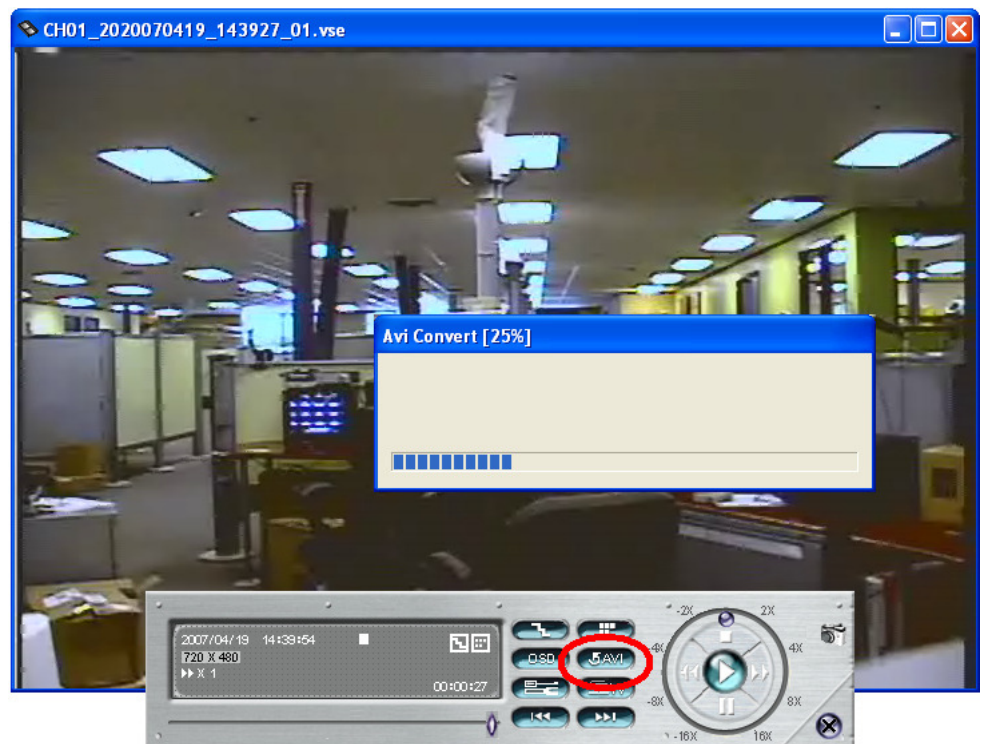
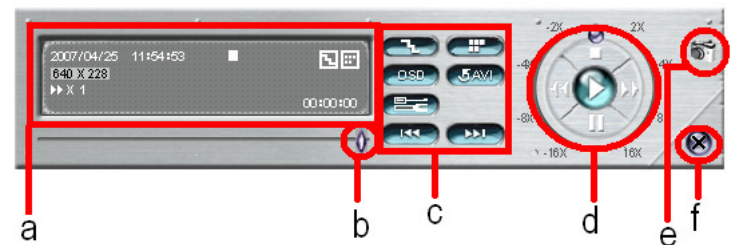
c. Functions:

(1) De-interlace  Reduce vibration when pausing picture.

(2) De-blocking  Reduce video mosaic phenomenon.

(3) OSD  Display the OSD in Video Server.

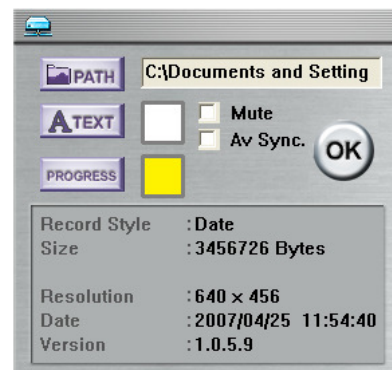
(4) AVI Conversion  Convert file to AVI format.



- (5) Config. Setting  Enter configuration settings, and set file path, text color, and progress status text color.

- * Mute: Play the video without audio.
- * AV sync. : Play the audio and video synchronously.

- (6) Watermark  is used to prove the authenticity of the backup video. In the playback mode press this button to check authenticity of the BACKUP VIDEO. If the BACKUP VIDEO had been altered, the video image will turn to light red and the playback will pause.



- (7) Open previous video  . Pause playback, press button to go to the previous frame.

- (8) Open the next backup video  . Pause playback, press button to go to the next frame.

d. Playback Control Buttons: Play / Stop / Pause / Fast Rewind / Fast Forward

- e. Snapshot  Press Snapshot to take a snapshot of the current image and save in specified destination.

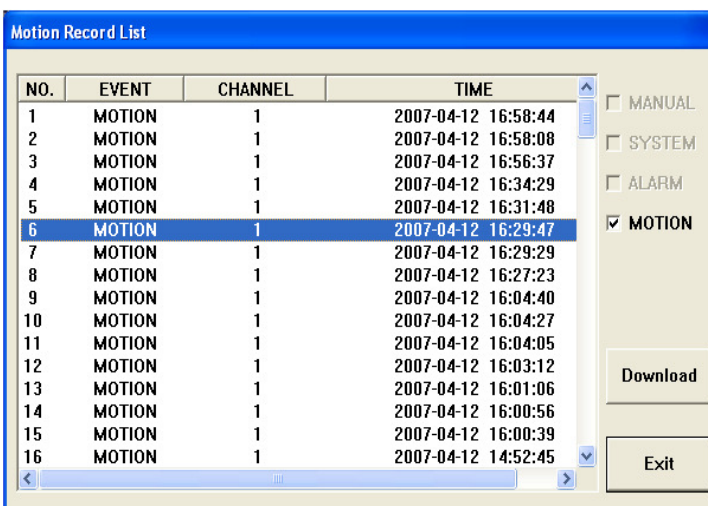
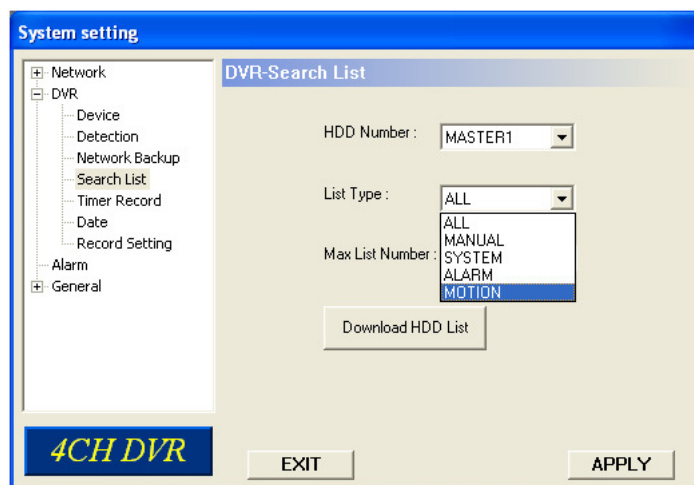
f. Close the Player

7.13 Search List

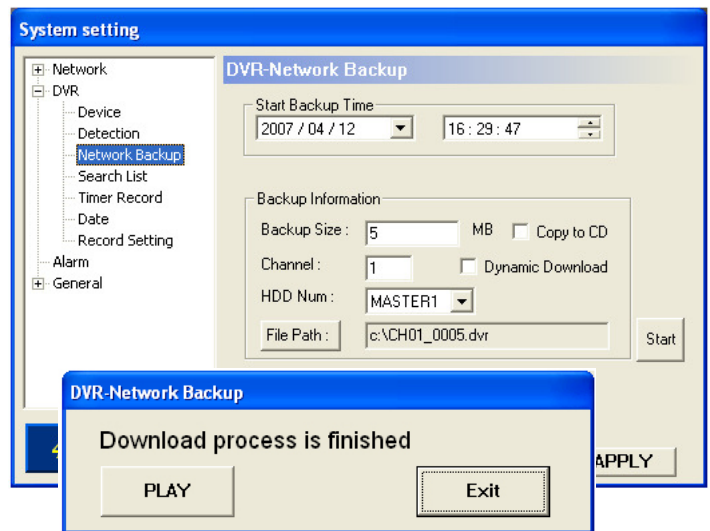
Quickly search the event logs from 4 different recording types, and backup the event recording.

1. Manual
 2. System
 3. Alarm
 4. Motion
- HDD Number
Select the hard-drive with the recorded data.
 - List Type
Select the event type you want to view: ALL / MANUAL / SYSTEM / ALARM / MOTION.
 - Max List Number
Set the maximum number of items in the search list.
 - Download HDD List
Press "Download HDD List", for the entire record list. Highlight the event log, and press "Download" and save to specified file.

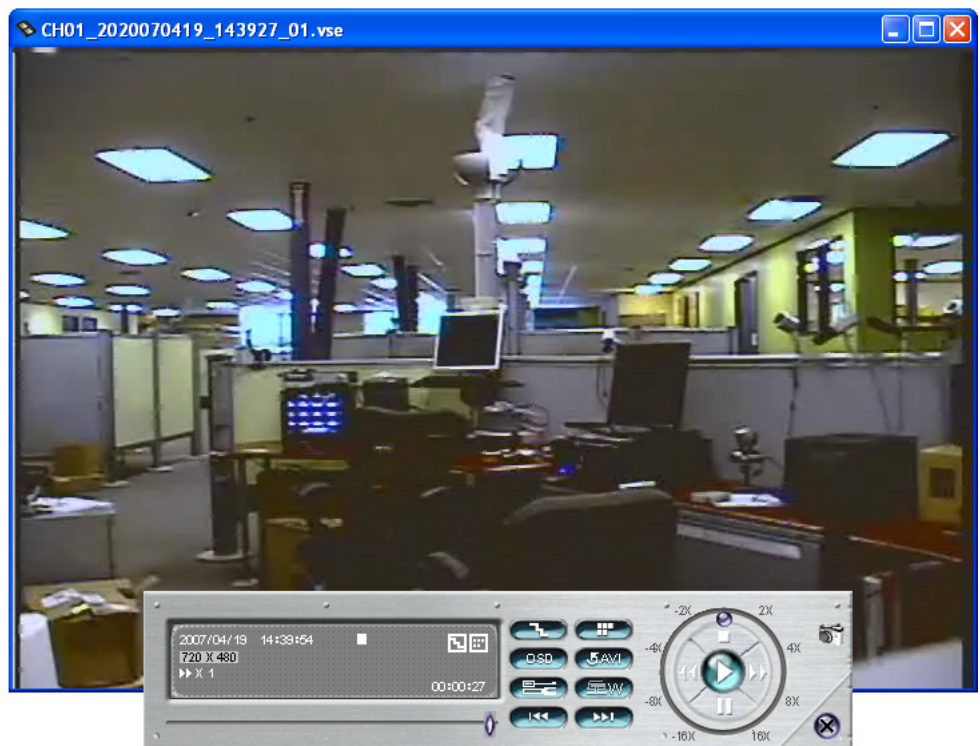
Tip: You can also quickly go to "DVR-Network Backup" window by double clicking the event log you want.



Press Apply to create backup file



Use Video Backup Player to view backup file

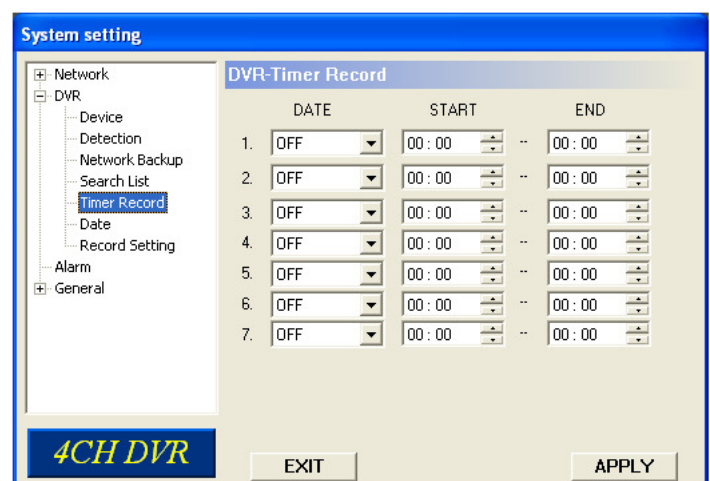


7.14 Timer Record

Timer Record", you can schedule up to 7 time events.

- **DATE**
Select a day from "DATE" dropdown menu. Options: OFF, SUN, MON, TUE, WED, THU, FRI, SAT, MON-FRI, SAT-SUN and DAILY.
- **START**
Enter the start time.
- **END**
Enter the end time

Press "APPLY" to confirm the setup, or "EXIT" to quit without saving.



7.15 Date

Set the date for your DVR. DO NOT change the date or time when the recording.

- **DATE**
Select the current date from “DATE” drop-down menu and enter the current time.
- **FORMAT**
Select the format for date display: Y-M-D, D-M-Y and M-D-Y.
- **DAYLIGHT SAVING**
Select daylight saving time (ON / OFF) and time period (START / END). Adjust the daylight saving time using hour (ADJUST).

Press “APPLY” to confirm the setup, or “EXIT” to quit without saving.

7.16 Record Setting

- **MANUAL RECORD**
Set manual recording (YES / NO), and set IPS.
- **EVENT RECORD**
Set event recording (YES / NO), and set IPS. Enable Motion or Alarm recording.
- **TIMER RECORD**
Set timer recording (YES / ON), and set IPS. Enable Schedule recording time.

NOTE: IPS - Images Per Second.

- **OVERWRITE**
Enable OVERWRITE (**YES** / NO). Set DVR to record over previous video recordings and record new video when hard drive is full. In the **NO** option the hard drive will stop recording when full and you will have to restart the recording manually.
- **RECORD IMG SIZE**
Choose “**FRAME**” or “CIF”. FRAME mode will give you 30 images per second. CIF mode will give you 120 images per second. For 99% of applications use the FRAME mode, CIF increases frames per second to 120, but reduces resolution and picture quality is poor.
- **RECORD QUALITY**
Set record quality: BEST, HIGH, NORMAL and BASIC.
- **TOTAL IPS SHARE: NOT AVAILABLE** with this unit.
Select total IPS shared option FIX or GROUP. Controls what cameras share IPS resources.

Press “APPLY” to confirm the setup, or “EXIT” to quit without saving.

System setting

DVR-Date

DATE: 2007 - Apr - 19 14 : 29 : 40

FORMAT: Y-M-D

DAYLIGHT SAVING: ☐ ON ☒ OFF

START: 1ST SUN APR 00 : 00

END: LAST SUN OCT 00 : 00

ADJUST: 01 : 00

4CH DVR

EXIT APPLY

System setting

DVR-Record

MANUAL RECORD: ☐ YES ☒ NO IPS: 30

EVENT RECORD: ☐ YES ☒ NO IPS: 30

TIMER RECORD: ☐ YES ☒ NO IPS: 30

OVERWRITE: ☐ YES ☒ NO

RECORD IMG SIZE: ☒ FRAME ☐ CIF

RECORD QUALITY: NORMAL

TOTAL IPS SHARE: ☒ FIX ☐ GROUP

4CH DVR

EXIT APPLY

7.17 Alarm

Enable or disable email or ftp and file back up alarm notification.

- Alarm Trigger
Enable or Disable alarm trigger.
- Alarm Method
Select alarm notification method when any alarm is triggered: Email or FTP.

a) Email

When an alarm is triggered an MJPEG email notification will be emailed to the E-mail address assigned in **"Network" > "Mail"**. Alarm method will also save an MJPEG to a specified file location set in **"General" > "File Path"** and **"Snapshot Path"**.

b) FTP

When an alarm is triggered an MJPEG ftp notification will be uploaded to the FTP address assigned in **"Network" > "FTP"**. Alarm method will also save an MJPEG to a specified file location set in **"General" > "File Path"** and **"Snapshot Path"**.

- Post Numbers
Set the number of pictures to send (1-10).
- Alarm Duration
Set motion trigger recording duration time (5 SEC / 10 SEC / 20 SEC / 40 SEC).
- Auto switch to alarm video
Will switch to the video channel that an alarm event is coming from.
- Alarm Refresh
Press to clear the alarm icon "  ".

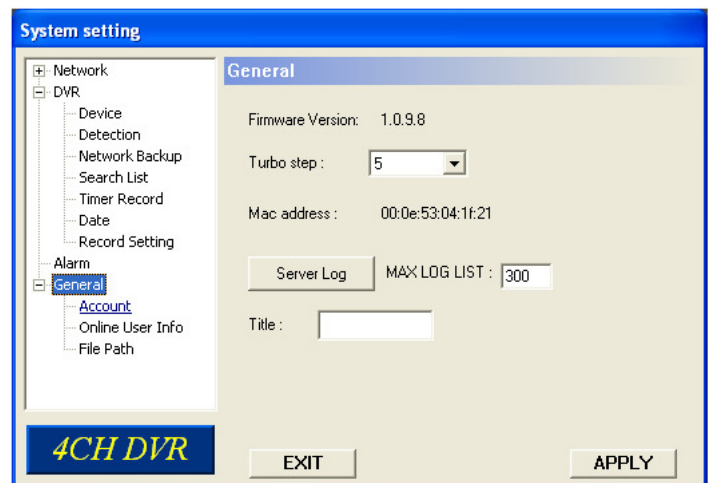
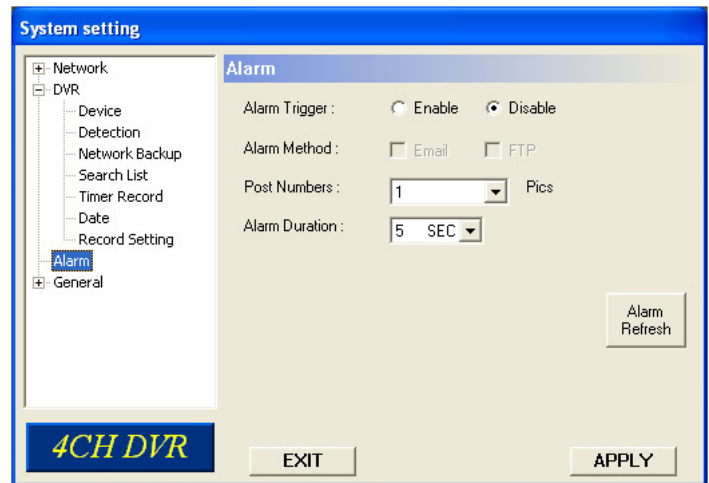
7.18 General

View and setup DVR information and settings.

- Firmware Version
Display DVR firmware version.
- Turbo step
Speed up menu selection or PTZ control. (1 to 30)

Example: When set to 5, pressing the up/down/left/right button will equal 5 moves.

- Mac address
Display Mac address.
- MAX LOG LIST
Set the maximum number of log list.
- Server Log
Filter log types you want to see by checking or unchecking the log types.
- Title
Name the title which will be shown on the top of the AP live viewer (up to 8 characters).



7.19 Account

View the account information, set the maximum user number, and add / delete / edit user accounts.

- Set the maximum number of users in **Max User(s)** setting. (1 ~ 5).
- Create a new account by pressing “ADD”.

To confirm account, press “OK”; to discard, press “EXIT”.

Item Description

Username: Input Video Server login user name.

Password: Input Video Server password.

Life time: Select how long this account is allowed to stay online (1 Min / 5 Min / 10 Min / 1 Hour / 1 Day / INFINITY).

User level: Each User level has a different user access:



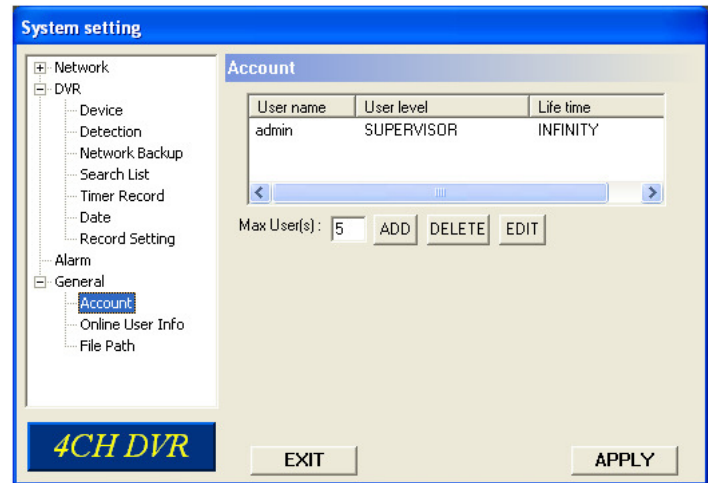
a b c d e f g

SUPERVISOR – all system access.

HIGH – all system access except for “System Config “g”.

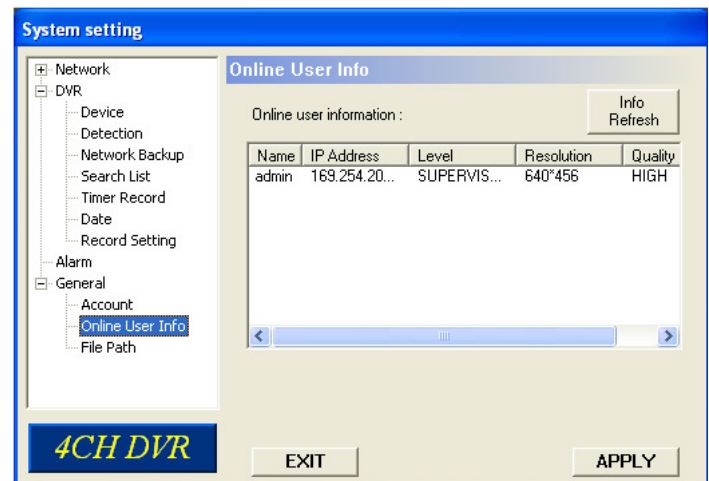
NORMAL – Partial system access except for “Connecting/Disconnecting, SnapShot and Record”. “a”, “e” and “f”.

GUEST – This level only allows to watch the video.



7.20 Online User Info

View online user account information.



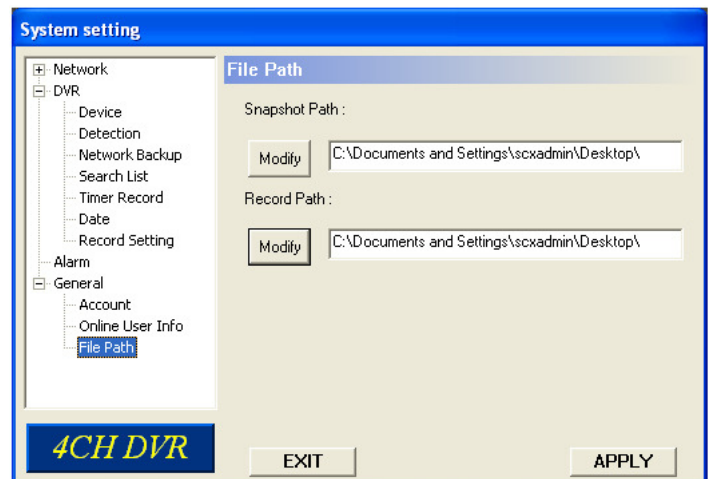
7.21 File Path

View and change the file path for saving snapshots and recorded data. To change and customize the file path, press “Modify”.

Snapshot Path: Assign the file path for saving the snapshot picture.

Record Path: Assign the file path for saving the manually recorded file.

Alarm Audio Path (For Model 5): Customize the alarm audio file in “WMV” format. (Not available on this Unit).

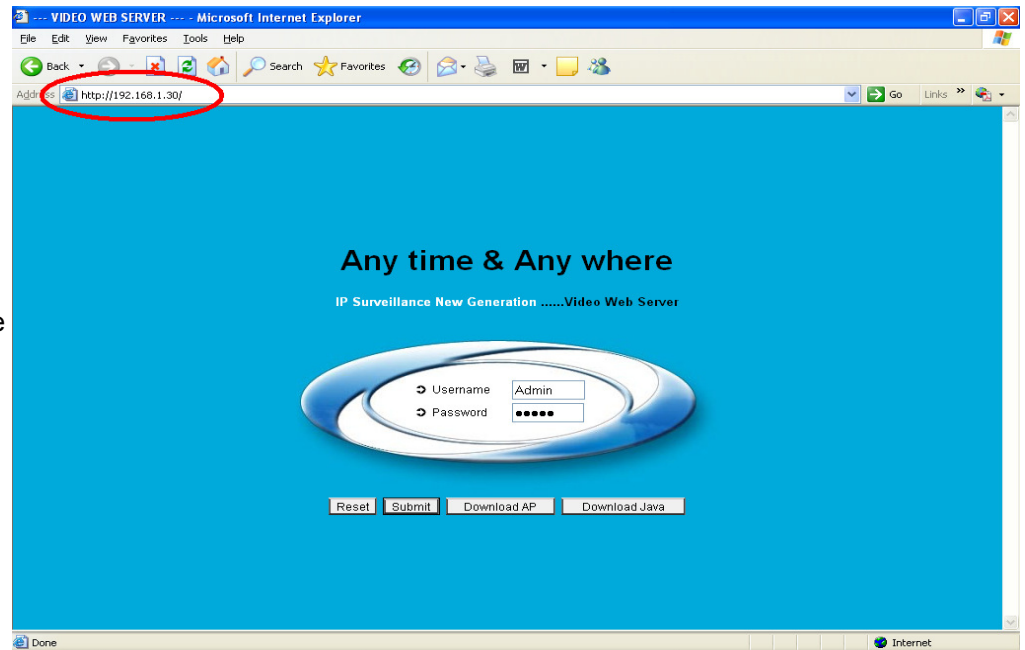


7.22 Operation via IE Browser

You can view the images or operate your DVR using a IE (Internet Explorer) web browser.

Note: Operating systems that support Video Web Server Browser are Windows 2000 and Windows XP.

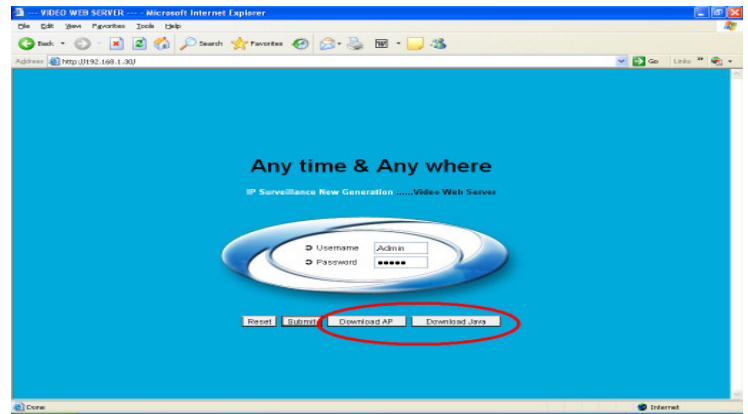
1. Go to your Internet Explorer and type in your DVR IP address in the URL address box and press Enter.
2. Enter your DVR Username and Password. If you have not made any changes to the Admin Username or Password, type **Admin** in for the Username and **Admin** for the password. Press the enter key.



3. If your DVR is using a different port number other than port 80, you will need to key in the port number in addition to the IP address. For example: Using port 8000 for this example. Press the enter key.



Note: Down load lastest AP and Java



8.0 Remote PTZ Camera Control Panel

a ~ i: Same as the DVR control panel a ~ i.

J. Preset 1 ~ 16 
Use Preset 1 ~ 16 positions to pre-defined camera views.

k. AUTO 
Press AUTO to enter the auto pan or sequence mode. In the auto pan mode, the Live View page will rotate through the selected preset positions, (depending on the PTZ menu settings).

l . Zoom Tele  Zoom Wide 

m. Focus Near  Focus Far 

n. Continuously Zoom In  Continuously Zoom Out 

o. Enter : Press this button to confirm the settings or enter your selection.

p. PTZ on & off control 

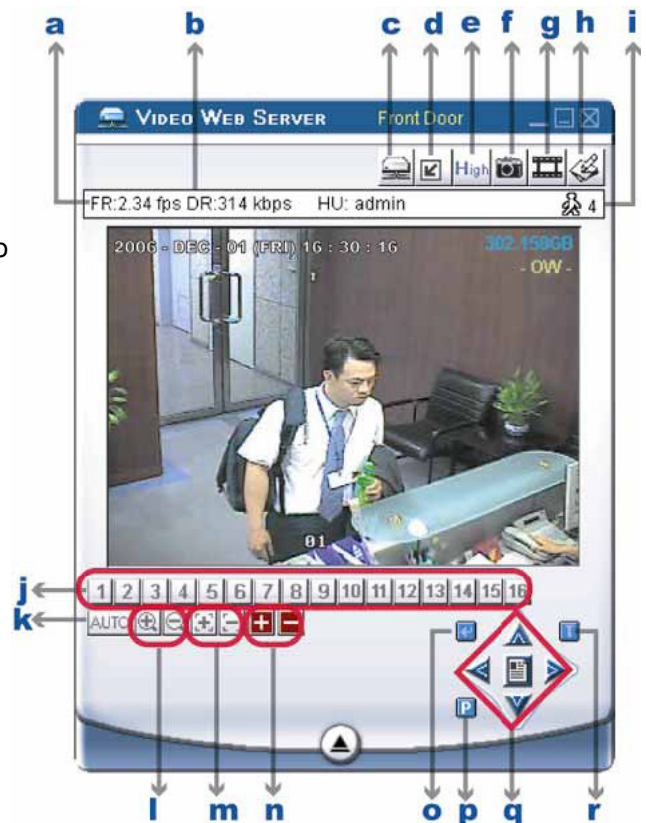
q. Menu  / Up  / Down  / Left  / Right 

Press  button to enter the DVR PTZ menu / Select ADVANCE>REMOTE and setup PTZ settings / exit the menu mode.

Use     buttons to move cursor and make selections.

r. Turbo ON/ OFF 
Use to speed up menu selection or control PTZ camera. Turbo step options 1 to 30.

Example: Setting turbo step to 3 will increase the speed of your up/down/left/right moves by 3.



9.0 FAQ/ TROUBLESHOOTING

Please refer to the table below when troubleshooting.

Problem	Solution
No power	Check power cord connection. Make sure you have out let power.
DVR is not responding when pressing keys.	You might be under “Key Lock” mode. Press any key and enter the password to exit mode.
Timer record is not working	Check if “TIMER RECORD ENABLE” option is set to “YES”.
Not getting live video	Confirm you have power coming to the camera. Check camera lens settings. Check the monitor’s video cable and connection
Not recording video	Make sure hard drive is installed and connected properly Run factory default reset. Clear hard drive. Make sure date and time is correct. Make sure DVR is in OverWrite mode, Set Over Write to ON.
DVR keeps rebooting	Make sure the hard drive internal power cable is installed correctly, or change to a compatible hard drive. Replace hard drive for testing. Replace hard drive cable for testing.
HDD detection failed	Make sure hard drive “Master”, “Slave” setting is correct. Run factory default reset. Clear hard drive. Make sure date and time is correct.
Can’t detect your USB flash drive	Replace with another USB flash drive for testing.
Can’t view the DVR video over the network	Update the JAVA program in Video Web Server. Update AP Software in Video Web Server. Go over network settings in this manual.
Can’t play the recorded video.	Must have at least 8192 images of recorded data for playback to work properly. Make sure date and time is correct.

9.1 Default Values

DVR

Item	Default Value
ADMIN Password	0000
Detection	OFF
GUEST Password	1111
Detection - LS	07
Camera - BRIG	110
Detection - SS	03
Camera - CONT	128
Detection - TS	02
Camera - SATU	128
Detection - RE	10
Camera - HUE	128
Detection - Alarm	OFF
Camera - COV	NO
Network - IP Address	192.168.1.10
Camera - REC	NO

Video Server

Item	Default Value
User Name	admin
Port	80
Password	admin
IP Address	192.168.1.10

Appendix 1 Install Hard Drive HDD

HDD Installation for Model 2, 3 and 4



Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5

Step 1: Unscrew and remove DVR top cover.

Step 2: Unscrew and remove the hard drive (HDD) bracket.

Step 3: Set the hard drive mode to **master or slave**.

Step 4: Screw HDD bracket to HDD, two screws for each side. Install and screw the HDD bracket back into the DVR base. (Refer to Fig.1 & 2).

Step 5: Connect HDD power connector and IDE BUS flat cable. IDE cable has a tab, make sure to align the tab with HDD. The cable goes in only one way, make sure view the connector before connecting.

Step 6: Install the top cover and fasten all the screws.

Appendix 2 DVQ-2, DMR 4 RT Pin Configuration

EXTERNAL DEVICES

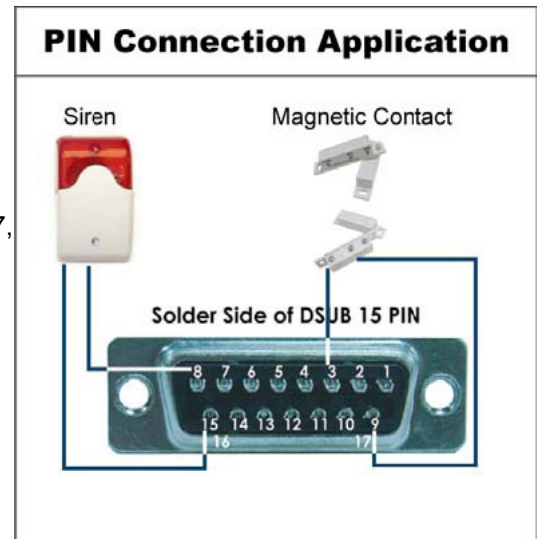
Connecting External Alarms devices - example using a Siren: Use pins 7, 8 inputs and 15 COM when connecting external alarms like sirens, or horns.

NO (Normally Open):

Under standby mode the DVR COM pin 8 is disconnected with the normally open (NO) device. When a DVR is triggered by an alarm trigger or motion detection, the COM (on the DVR) connects with (NO) normally open device and siren (external device) will start sounding and flashing.

NC (Normally Closed):

Under standby mode the DVR COM pin 7 is connected with the normally closed (NC) device. When a DVR is triggered by an alarm trigger or motion detection, the COM (on the DVR) disconnects with (NC) normally closed device and siren (external device) will start sounding and flashing.



INPUT ALARMS

Connecting Input Alarm devices - example using a Magnetic Contacts: Use pins 3, 6 inputs and 9 Signal Ground when connecting Input Alarms like magnetic contacts.

Alarm is set for LOW):

Under standby mode the DVR pin 3 to 6 are 5v TTL high, when external input device (Magnetic Contacts) input is activated or is low or grounded (zero), this will zero pins 3 ~ 6 and the DVR will start recording and buzzer will sound.

Alarm is set for HIGH):

Under standby mode the DVR pin 3 to 6 are 0v TTL low, when external input device (Magnetic Contacts) input is activated or is high (5v TTL), this will raise the voltage to 5V TTL to pins 3 ~ 6 and the DVR will start recording and buzzer will sound.

PIN DESCRIPTION

PIN NUMBERS:

- 1 RS232-TX DVR pin is used to serially communicate with remote PC using the RS-232 PROTOCOL. Use SERIAL PROTOCOL table for command set.
- 2 RS232-RX DVR pin is used to serially communicate with remote PC using the RS-232 PROTOCOL. Use SERIAL PROTOCOL table for command set.
- 3 ~ 6 ALARM INPUT
Use **ALARM INPUT (PINS 3 -- 6)** and **GND (PIN 9)** to activate the DVR to start recording and trigger internal buzzer sound.
- 7 EXTERNAL ALARM NC Under the normal operation, COM connects with NC and disconnects from NO. But when any alarm is triggered, COM disconnects with NC and connects with NO.
- 8 EXTERNAL ALARM NO. Under the normal operation, COM disconnects with NO. But when any alarm is triggered, COM connects with NO.

NOTE: MAXIMUM voltage allowable is 24DCV 1A.

9 GND Signal GND

10 RS485-B DVR pin is used to serially communicate with remote PC using the RS-485 PROTOCOL.

11 RS485-A DVR pin is used to serially communicate with remote PC using the RS-485 PROTOCOL.

12 ~ 13 PIN OFF

14 ALARM RESET (PIN 14) and GND (PIN 9) are used to disable DVR alarm outputs and internal buzzer sounds. Under normal conditions the Alarm Reset signal stays at high or 5V TTL. When the Alarm Reset signal becomes activated or 0 zero volts, alarm outputs and internal buzzer sounds will be disabled.

15 EXTERNAL ALARM COM Under normal operation, COM disconnects with NO (Normally Open). Triggering External Alarm input COM connects with NO.

NOTE: MAXIMUM voltage allowable is 24DCV 1A.

16 ~ 17 GND Earth GND

Appendix 2 DMR 8, 16 RT Pin Configuration

PIN DESCRIPTION

PIN NUMBERS:

1 GND Earth GND

2 ~ 9 ALARM INPUT

Use **ALARM INPUT (PINS 2 -- 9)** and **GND (PIN 1)** to activate the DVR to start recording and trigger internal buzzer sound.

When closing connection ALARM INPUT (PIN 2 -- 9) to GND (PIN 1), DVR will start recording and the buzzer will turn on.

When “**MENU -> CAMERA -> ALARM**” is set to “Low” : When the alarm input signal is “ Low ”, the DVR will start to record and buzzer will turn on.

When “**MENU -> CAMERA -> ALARM**” is set to “High” : When the alarm input signal is “ High ”, the DVR will start to record and buzzer will turn on.

10 Pin is OFF

11 RS232-TX DVR pin is used to serially communicate with remote PC using the RS-232 PROTOCOL. Use SERIAL PROTOCOL table for command set.

12 RS485-A DVR pin is used to serially communicate with remote PC using the RS-485 PROTOCOL.

13 EXTERNAL ALARM NO. Under the normal operation, COM disconnects with NO. But when any alarm is triggered, COM connects with NO.

14 Pin is OFF

15 ~ 22 ALARM INPUT: Use **ALARM INPUT (PINS 15 -- 22)** and **GND (PIN 1)** to activate the DVR to start recording and trigger internal buzzer sound.

When closing connection ALARM INPUT (PIN 15 -- 22) to GND (PIN 1), DVR will start recording and the buzzer will turn on.

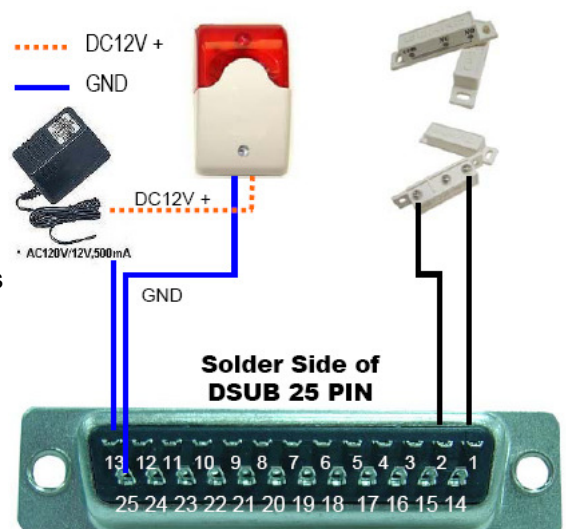
When “**MENU -> CAMERA -> ALARM**” is set to “Low” : When the alarm input signal is “ Low ”, the DVR will start to record and buzzer will turn on.

When “**MENU -> CAMERA -> ALARM**” is set to “High” : When the alarm input signal is “ High ”, the DVR will start to record and buzzer will turn on.

23 RS232-RX DVR pin is used to serially communicate with remote PC using the RS-232 PROTOCOL. Use SERIAL PROTOCOL table for command set.

24 RS485-B DVR pin is used to serially communicate with remote PC using the RS-485 PROTOCOL.

25 EXTERNAL ALARM COM Under normal operation, COM disconnects with NO (Normally Open). Triggering External Alarm input COM connects with NO.



Appendix 3, DVQ-2 & DMR 4, 8, 16 RT RS232 PROTOCOL

Data: REMOTE PROTOCOL use 8 bit data, 1 start bit, 1 stop bit.

FUNCTION	CODE	ASCII	FUNCTION	CODE	ASCII
KEY_MENU	0x4D	M	KEY_DWELL	0x65	e
KEY_ENTER	0x0D	ENTER	KEY_CH1	0x31	1
KEY_PLUS	0x6b	k	KEY_CH2	0x32	2
KEY_MINUS	0x6d	m	KEY_CH3	0x33	3
KEY_UP	0x55	U	KEY_CH4	0x34	4
KEY_DOWN	0x4E	N	KEY_CH5	0x35	5
KEY_LEFT	0x4C	L	KEY_CH6	0x36	6
KEY_RIGHT	0x52	R	KEY_CH7	0x37	7
KEY_POWER	0x57	W	KEY_CH8	0x38	8
KEY_REC	0x72	r	KEY_CH9	0x39	9
KEY_PLAY	0x50	P	KEY_CH10	0x41	A
KEY_SLOW	0x53	S	KEY_CH11	0x42	B
KEY_ZOOM	0x5A	z	KEY_CH12	0x43	C
KEY_KEY LOCK	0x4B	K	KEY_CH13	0x44	D
KEY_AUDIO	0x64	d	KEY_CH14	0x45	E
KEY_SEARCH	0x73	S	KEY_CH15	0x46	F
KEY_PTZ_MODE	0x70	p	KEY_CH16	0x47	G
KEY_PTZ_PRESET	0x71	q	KEY_EJECT_DVD	0x6a	j
KEY_PTZ_ZOOM_IN	0x69	i	KEY_IRIS_NEAR	0x67	g
KEY_PTZ_ZOOM_OUT	0x66	f	KEY_IRIS_FAR	0x68	h
KEY_MODE	0x6f	o	KEY_PTZ_LIGHT	0x6c	l
KEY_4 CUT	0x61	a	KEY_PTZ_WIPER	0x77	w
KEY_9 CUT	0x62	b			
KEY_16 CUT	0x63	c			
KEY_SET_CHANNEL	0x6e	n			

Appendix 4, DVQ-2 RECORDING TIME TABLE

RECORD MODE	QUALITY	IPS	RECORD TIME FOR 500GB (HOUR)	RECORD DAY
FRAME	BEST	30	127.78	5.3
		15	236.11	9.8
		7	511.11	21.3
		3	980.65	40.9
	HIGH	30	159.72	6.7
		15	305.55	12.7
		7	633.89	26.4
		3	1209.72	50.4
	NORMAL	30	179.17	7.5
		15	352.78	14.7
		7	626.11	28.6
		3	1263.88	52.7
	BASIC	30	222.22	9.3
		15	405.56	16.9
		7	927.78	38.7
		3	1637.5	68.2
CIF	BEST	120	763.89	31.8
		60	1416.67	59
		30	2156.94	89.9
		15	4134.72	172.3
	HIGH	120	965.28	40.2
		60	1655.55	69
		30	3398.61	141.6
		15	4833.31	201.4
	NORMAL	120	1120.83	46.7
		60	2166.38	90.3
		30	4105.56	171.1
		15	5154.17	214.8
	BASIC	120	1563.89	65.2
		60	2494.44	103.9
		30	4472.22	186.3
		15	6681.94	278.4

Appendix 5, DVQ-2 Compatible USB Flash Drives.

Upgrade to the latest DVR firmware version. If the USB flash drive is not supported by the DVR will notify you of a non supported flash drive by displaying the error message, “**USB ERROR**”.

Note: Format the USB flash drive using “FAT 32” on your PC.

DVQ-2, DMR 4, 8, 16 RT Compatible USB Flash Drives

MANUFACTURER	MODEL	CAPACITY
Transcend	JetFlash 110	256MB
		512MB
Kingston	DataTraveler DTI KUSB DTI/256FE	256MB
		512MB
PQI	Cool Drive (U339)	256MB
		512MB
APACER	HANDY STENO HF202	256MB
		512MB
SANDISK	Cruzer Micro	128MB
		256MB
		512MB

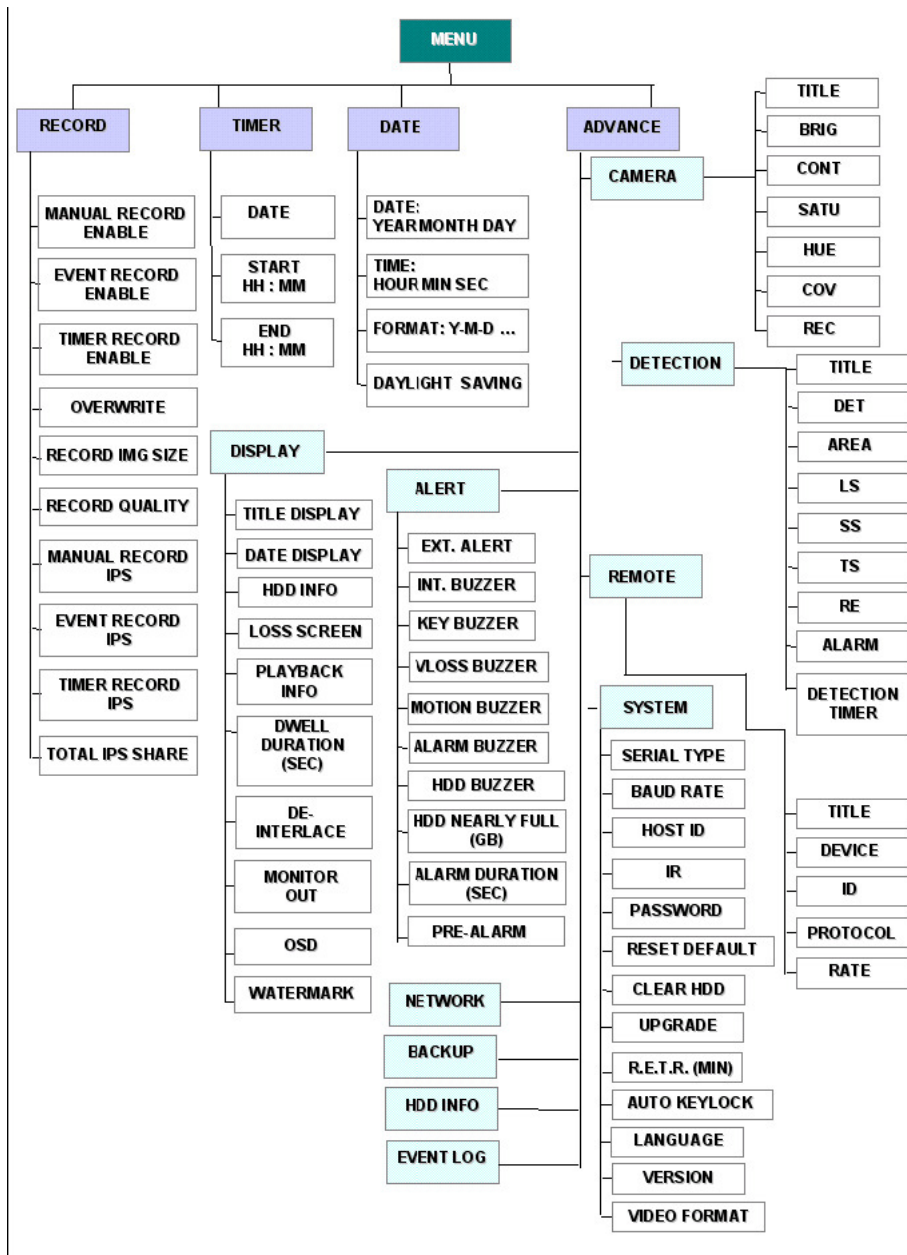
Appendix 6, DVQ-2 Compatible Hard Drives HDD.

MANUFACTURER	MODEL	CAPACITY	ROTATION
HITACHI	Deskstar 7K250, HDS722516VLAT20	160GB	7200 rpm
	HDS722516VLAT80	160GB	7200 rpm
	HDS722516DLAT80	160GB	7200 rpm
	Deskstar 7K250, HDS722525VLAT80	250GB	7200 rpm
	Deskstar 511DHT0021	500GB	7200 rpm
Maxtor	DiamondMax Plus 9, Model#6Y160L0	160GB	7200 rpm
	DiamondMax 10 6L160R0	160GB	7200 rpm
	DiamondMax 10 6L200R0	200GB	7200 rpm
	DiamondMax 10 6L200PO	200GB	7200 rpm
	MaxLine Plus II, Model#7Y250P0	250GB	7200 rpm
	DiamondMax 10 6L250R0-3	250GB	7200 rpm
	DiamondMax 10 HDMA6L300RO-3	300GB	7200 rpm
Seagate	Barracuda 7200.7 Plus, ST3160023A	160GB	7200 rpm
	Barracuda 7200.8 ST3200826A	200GB	7200 rpm
	Barracuda 7200.8 ST3250826A	250GB	7200 rpm
	Barracuda 7200.8 ST3300831A/P	300GB	7200 rpm
	Barracuda 7200.8 ST3400832A/P	400GB	7200 rpm
	7200.9 ST3200827A/P	200GB	7200 rpm
	7200.10 ST3250620A/P	250GB	7200 rpm
	7200.10 ST3320620A/P	320GB	7200 rpm
Western Digital	Caviar SE WD1600JB	160GB	7200 rpm
	Caviar WD2000BB-00DWA0	200GB	7200 rpm
	Caviar SE WD2500JB	250GB	7200 rpm
	Cavir RE WD2500SB-01KBC0	250GB	7200 rpm

Appendix 6, DMR 4, 8, 16 RT Compatible Hard Drives HDD.

Brand Name	Model	Capacity	Rotation
HITACHI	Deskstar HDS728080PLAT20	80GB	7200 rpm
HITACHI	Deskstar 180 GXP	120GB	7200 rpm
HITACHI	Deskstar 7K250, HDS722516VLAT20	160GB	7200 rpm
HITACHI	HDS722516VLAT80	160GB	7200 rpm
HITACHI	HDS722516DLAT80	160GB	7200 rpm
HITACHI	Deskstar 7K250, HDS722525VLAT80	250GB	7200 rpm
HITACHI	Deskstar 511DHT0021	500GB	7200 rpm
IBM	Deskstar 120GXP (80GB)	80GB	7200 rpm
IBM	Deskstar 120GXP (120GB)	120GB	7200 rpm
Maxtor	DiamondMax 536DX(60GB) 4W060H4	60GB	5400 rpm
Maxtor	DiamondMax Plus 9	80GB	7200 rpm
Maxtor	DiamondMax Plus 9, Model#6Y120L	120GB	7200 rpm
Maxtor	DiamondMax Plus 9, Model#6Y160L0	160GB	7200 rpm
Maxtor	DiamondMax 10 6L120PO	120GB	7200 rpm
Maxtor	DiamondMax 10 6L160R0	160GB	7200 rpm
Maxtor	DiamondMax 10 6L200R0	200GB	7200 rpm
Maxtor	DiamondMax 10 6L200PO	200GB	7200 rpm
Maxtor	MaxLine Plus II, Model#7Y250P0	250GB	7200 rpm
Maxtor	DiamondMax 10 6L250R0-3	250GB	7200 rpm
Seagate	Barracuda ATA IV, ST380021A	80GB	7200 rpm
Seagate	Barracuda ATA V, ST3120023A	120GB	7200 rpm
Seagate	Barracuda 7200.7 Plus, ST3160023A	160GB	7200 rpm
Seagate	Barracuda 7200.8 ST3200826A	200GB	7200 rpm
Seagate	Barracuda 7200.8 ST3250826A	250GB	7200 rpm
Seagate	Barracuda 7200.8 ST3300831A/P	300GB	7200 rpm
Seagate	Barracuda 7200.8 ST3400832A/P	400GB	7200 rpm
Western Digital	Caviar WD1200BB-00CAA1	120GB	7200 rpm
Western Digital	Caviar SE WD1200JB	120GB	7200 rpm
Western Digital	Caviar SE WD1600JB	160GB	7200 rpm
Western Digital	Caviar WD2000BB-00DWA0	200GB	7200 rpm
Western Digital	CaviarSE WD2500JB	250GB	7200 rpm

Appendix 7, DVQ-2 & DMR 4, 8, 16 RT MENU TREE



Appendix 8 DMR 4, 8, 16 RT Specifications

MODEL	16CH / 16CH (D)	8CH / 8CH (D)	4CH / 4CH (D)
Video System	NTSC / PAL (switchable)		
Video Compression Format	MPEG 4		
Video Input (Composite video signal 1 Vp-p 75Ω BNC)	16 Channels	8 Channels	4 Channels
Video Loop Out (Composite video signal 1 Vp-p 75Ω BNC)	16 Channels	8 Channels	4 Channels
Video Output	Main Monitor Output: Composite video signal 1 Vp-p 75Ω BNC Call Monitor Output: Composite video signal 1 Vp-p 75Ω BNC		
Maximum Recording Rate (Frame)	720 × 480 pixels with 120 IPS (NTSC) 720 × 576 pixels with 100 IPS (PAL)	720 × 480 pixels with 60 IPS (NTSC) 720 × 576 pixels with 50 IPS (PAL)	720 × 480 pixels with 30 IPS (NTSC) 720 × 576 pixels with 25 IPS (PAL)
Maximum Recording Rate (CIF)	352 × 240 pixels with 480 IPS (NTSC) 352 × 288 pixels with 400 IPS (PAL)	352 × 240 pixels with 240 IPS (NTSC) 352 × 288 pixels with 200 IPS (PAL)	352 × 240 pixels with 120 IPS (NTSC) 352 × 288 pixels with 100 IPS (PAL)
Adjustable Recording Speed (Frame)	120, 60, 30, 15 IPS <NTSC> 100, 50, 25, 12 IPS <PAL>	60, 30, 15, 7 IPS <NTSC> 50, 25, 12, 6 IPS <PAL>	30, 15, 7, 3 IPS <NTSC> 25, 12, 6, 3 IPS <PAL>
Adjustable Recording Speed (CIF)	480, 240, 120, 60 IPS <NTSC> 400, 200, 100, 50 IPS <PAL>	240, 120, 60, 30 IPS <NTSC> 200, 100, 50, 25 IPS <PAL>	120, 60, 30, 15 IPS <NTSC> 100, 50, 25, 12 IPS <PAL>
Image Quality Setting	Best, High, Normal, and Basic		
Hard Disk Storage (IDE type, ATA66) (over 400GB)	16CH: support HDD * 2 16CH (D): support HDD *1	8CH: support HDD * 2 8CH (D): support HDD *1	4CH: support HDD * 1 4CH (D): support HDD *1
HDD Quick Cleaning	Quick clean up the "index system" of the recorded files. 250GB under 2 seconds		
Recording Mode	Manual/Timer/Motion/Alarm/Remote Network		
Watermark	Yes		
Refresh Rate	480 IPS for NTSC 400 IPS for PAL	240 IPS for NTSC 200 IPS for PAL	120 IPS for NTSC 100 IPS for PAL
Multiplex Operation	live display, record, playback, backup, and network		
Audio I/O	4 audio inputs, 2 audio outputs (Mono)		
Motion Detection Area	16 × 12 grids per camera for all channels		
Motion Detection Sensitivity	4 adjustable variables with precise calculation for motion detection		
Pre-alarm Recording	Yes (8 MB)		
Backup Device	Support USB 1.1/ 2.0 flash drive backup and network remote backup 16CH (D) / 8CH (D) / 4CH (D) models also support DVD-WRITER or CD-WRITER backup		
USB Interface	front panel * 1, back panel * 1		front panel * 1
Web Transmitting Compression Format	Motion JPEG		
Ethernet	10/100 Base-T. Support remote control and live view via Ethernet		
Web Interface	Support licensed software AP, and IE browser		
Remote Alarm Notification	E-mail images, and upload images to FTP site's specific account		
Network Protocol	TCP/IP, PPPoE, DHCP and DDNS		
IR transmitter	Remotely control DVR and PTZ via IR transmitter (RS-485)		(4CH: Optional)
PTZ control	Support PELCO-D protocol		
Dwell Time (Sequential Channel Switch)	Programmable with adjustable dwell time (2, 4, 8, 16 sec.)		
Alarm I/O	16 inputs, 1 output	8 inputs, 1 output	4 inputs, 1 output
Picture Zoom	Support 2X digital zoom function		

Appendix 8 DMR 4, 8, 16 RT Specifications

MODEL	16CH / 16CH (D)	8CH / 8CH (D)	4CH / 4CH (D)
Specification Continued ...			
Key Lock	Yes		
Video Loss Detection	Yes		
Camera Title	Support up to 6 letters		
Video Adjustable	Hue/Color/Contrast/Brightness		
Date Display Format	YY/MM/DD, DD/MM/YY, MM/DD/YY, and Off		
Daylight Saving	Yes		
Power Source	DC 19V		
Power Consumption	< 64 W		4CH: <42 W ; 4CH (D): <64 W
Operating Temperature	10°C ~ 40°C (50°F~104°F)		
Dimensions (mm)	432mm (W) × 90mm (H) × 326mm (D)		4CH: 343mm (W) × 59mm (H) × 223mm (D) 4CH (D): 432mm (W) × 90mm (H) × 326mm (D)
System Recovery	System auto recovery after power reconnected		
Optional Peripherals	Independent Disk Array ; VGA Converter		Independent Disk Array ; VGA Converter ; IR Remote Control

16CH / 16CH(D)

Total IPS		120	60	30	15
Frame <D1>	Best	109	192	349	565
	High	138	243	442	714
	Normal	182	319	581	939
	Basic	293	516	939	1517
Total IPS		480	240	120	60
CIF	Best	130	229	417	673
	High	184	323	557	949
	Normal	242	424	773	1246
	Basic	335	588	1071	1730

8CH / 8CH(D)

Total IPS		60	30	15	7
Frame <D1>	Best	218	384	689	1130
	High	276	486	882	1428
	Normal	364	636	1162	1878
	Basic	586	1032	1878	3034
Total IPS		240	120	60	30
CIF	Best	260	458	834	1346
	High	368	646	1174	1896
	Normal	484	848	1546	2498
	Basic	670	1176	2142	3460

4CH / 4CH(D)

Total IPS		30	15	7	3
Frame <D1>	Best	436	767	1398	2260
	High	552	972	1764	2856
	Normal	728	1276	2324	3756
	Basic	1172	2064	3756	6068
Total IPS		120	60	30	15
CIF	Best	520	916	1668	2692
	High	736	1292	2348	3796
	Normal	968	1696	3092	4996
	Basic	1340	2352	4284	6920

Appendix 11

DVQ-2

Specifications

SPECIFICATION*					
Video System	NTSC / PAL (switchable)				
Video Compression Format	Frame: MJPEG ; CIF: MPEG4				
Video Input	4 Channels. Composite video signal 1 Vp-p 75Ω BNC				
Video Loop Out	4 Channels. Composite video signal 1 Vp-p 75Ω BNC				
Video Output	Main Monitor Output: Composite video signal 1 Vp-p 75Ω BNC Call Monitor Output: Composite video signal 1 Vp-p 75Ω BNC				
Maximum Recording Rate	Frame: 720 × 480 pixels with 30 IPS (NTSC) / 720 × 576 pixels with 25 IPS (PAL) CIF: 352 × 240 pixels with 120 IPS (NTSC) / 352 × 288 pixels with 100 IPS (PAL)				
Adjustable Recording Speed	Frame: 30, 15, 7, 3 IPS (NTSC) / 25, 12, 6, 3 IPS (PAL) CIF: 120, 60, 30, 15 IPS (NTSC) / 100, 50, 25, 12 IPS (PAL)				
Multi-language OSD	YES				
Image Quality Setting	Best, High, Normal, and Basic				
Hard Disk Storage	Accommodate 1 HDD (IDE type, ATA66), support HDD capacity over 500GB * HDD is optional.				
HDD Quick Cleaning	Quick clean up the "index system" of the recorded files. 500GB under 2 seconds				
Recording Mode	Manual / Timer / Motion / Alarm / Remote				
Watermark	YES				
Refresh Rate	120 IPS for NTSC / 100 IPS for PAL				
Audio I/O			1 audio input, 1 audio output (Mono)		
Motion Detection Area	16 × 12 grids per camera for all channels				
Motion Detection Sensitivity	4 adjustable variables with precise calculation for motion detection				
Pre-alarm Recording	YES (8MB)				
USB Interface			NO		
Backup Device			Network remote backup		
Web Transmitting Compression Format	Motion JPEG				
Ethernet	10/100 Base-T. Support remote control and live view via Ethernet				

SPECIFICATION*					
Web Interface	Support licensed software AP and IE browser				
Remote Alarm Notification	E-mail images, and upload images to FTP site's specific account				
Network Connection	Support TCP/IP, PPPOE, DHCP and DDNS functions				
PTZ control	Support PELCO-D protocol				
Dwell Time (Sequential Channel Switch)	Programmable with adjustable dwell time (2, 4, 8, 16 sec.)				
Alarm I/O	4 inputs, 1 output				
Digital Zoom	2X digital zoom (live mode)				
Key Lock	YES				
Video Loss Detection	YES				
Camera Title	Support up to 6 letters				
Video Adjustable	Hue / Color / Contrast / Brightness				
Date Display Format	YY/MM/DD, DD/MM/YY, MM/DD/YY, and Off				
Power Source	DC 19V				
Power Consumption	< 42 W				
Operating Temperature	10°C ~ 40°C (50°F~104°F)				
Dimensions (mm)			343mm (W) × 59mm (H) × 223mm (D)		
System Recovery	System auto recovery after power reconnected				